FINANCIAL RATIO ANALYSIS TO PREDICT A FINANCIAL DISTRESS

(A Case Study in Manufacturer Companies at Indonesia Stock Exchange)

BY:

ADE HERMAWAN

NIM 115020307121007

Submitted as One of Requirements to Achieve Bachelor Degree of Economics

INTERNATIONAL UNDERGRADUATE PROGRAM IN

DEPARTMENT OF ACCOUNTING

FACULTY OF ECONOMICS AND BUSINESS

UNIVERSITY OF BRAWIJAYA

MALANG

2018

APPROVAL PAGE

Minor Thesis entitled:

FINANCIAL RATIO ANALYSIS TO PREDICT A FINANCIAL DISTRESS

(A Case Study in Manufacturer Companies at *Indonesia* Stock Exchange)

Written by:

Name : Ade Hermawan

Student's Number : 115020307121007

Faculty : Economics and Business

Department : International Undergraduate Program in Accounting

Has been examined by the Board of Examiners on June 7, 2018 and certified as the requirement for the degree Bachelor of Economics.

BOARD OF EXAMINERS

1. Drs IMAM SUBEKTI, Ak., M.Si., Ph.D
   NIP. 19651102 199203 1 002
   (Supervisor)
2. Dr.WURYAN ANDAYANI, SE., Ak., M.Si.
   NIP. 19681029 199903 2 001
   (First Examiner)
3. Dr. AULIA FUAD RAHMAN, SE., Ak., M.si.
   NIP. 19740910 200212 1 001
   (Second Examiner)

Malang,June 28, 2018

Acknowledged by,

Head of AccountingDepartment

DR. Dra. ENDANG MARDIATI, M.Si., Ak.

NIP. 199590902 198601 2 001

STATEMENT OF ORIGINALITY

I, the undersigned :

Name	: Ade Hermawan
Student ID	: 115020307121007
Faculty	: Faculty of Economics and Business Economic and Business
Departemnet	: International Undergraduate Program in Accounting

Hereby certify that Iam the sole author of this minor thesis entitled :

"FINANCIAL RATIO ANALYSIS TO PREDICT A FINANCIAL DISTRESS"

(A Case Study in Manufacturer Companies at Indonesia Stock Exchange)

And this minor thesis has not previously been submitted for a degree in any other university or institution.

I certify that, to the best of my knowledge, my minor thesis does not infringe upon anyone's copyright now violate any proprietary right and that any ideas, techniques, quotations, or any other materials from the work of other people included in my minor thesis, published or otherwise, are fully acknowledge in accordance with the standard referencing practices.

If my statement is proven to be incorrect, I agree to accept existing academic sanctions. This statement was made under full awareness and consciousness, to be used when necessary.

Malang, June 4, 2018

Author

NIM. 115020307121007

ACKNOWLEDGEMENT

The author would like to express the most gratitude to the Only God, Allah SWT, for the countless blessings and given strengths to complete this minor thesis entitled: "FINANCIAL RATIO ANALYSIS TO PREDICT A FINANCIAL DISTRESS (A Case Study in Manufacturer Companies at Indonesia Stock Exchange)" .

The completion of this minor thesis would not be possible without the participation and assistance of so many people whose names may not all be enumerated. Their contributions are sincerely appreciated and gratefully acknowledge. However, the author would like to express her deep appreciation to the following :

1. To beloved fathers and mothers who have been helping researchers in the form of attention, affection, enthusiasm, and prayers that are incessantly flowing for the smoothness and success of researchers in completing this thesis.
2. To Drs. Imam Subekti , Ak., M.Si., Ph.D. as a supervisor who always provides guidance, direction, encouragement, and enthusiasm to the researcher, so this thesis can be completed.
3. All lecturers and all academic staff who always assist in providing facilities, knowledge, and education to researchers can support the completion of this thesis.

4. Friends of arms from MetPen 3 to Thesis, Fatoni, Caicar, Ardha, Asfi, Agnes, Ayu, Annisa who have provided a lot of input and support to researchers.
5. My beloved classmates, Internasional Accounting 2011, for being courageous and caring.
6. Lastly, for All friends and acquaintances that i cannot mention one by one. Thank you for shaping me stronger.

The author hopes that this minor thesis will be beneficial for other and bring insights for the further uses.

Malang, August 10, 2018

Researcher

BIOGRAPHY

Ade Hermawan, was born in Madiun Regency precisely in Mancaan Hamlet, Jiwan Village, Jiwan Subdistrict, Madiun City on Sunday, October 25, 1992. Only child of the couple Drs.H.Sudarsono and Dra.Hj.Ratnawati. Researchers completed education at 05 State Elementary School (SDN) Nambangan Kidul in Mangunharjo District, Madiun City in 2006.

In that year researchers also continued their education at Madiun 2 Public Middle School and graduated in 2009 and then continued high school in Madiun 3 Public High School in 2009 and completed in 2011. In 2011 researchers continued their education at state universities, precisely at the University Brawijays (UB) Faculty of Economics and Business in Accounting Study Program.

TABLE OF CONTENTS

CHAPTER III RESEARCH METHOD

CHAPTER IV RESULTS AND DISCUSSION

CHAPTER V CONCLUSIONS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

FINANCIAL RATIO ANALYSIS TO PREDICT A FINANCIAL DISTRESS

(A Case Study in Manufacturer Companies at *Indonesia* Stock Exchange)

By:

Ade Hermawan

Supervisor:

Drs. Imam Subekti , Ak., M.Si., Ph.D.

ABSTRACT

This study aims to determine the effect of financial ratios to predict financial distress in the company. Financial ratios in this research are leverage ratio indicator, liquidity ratio, activity ratio, and profitability ratio. The population in this study are all companies listed on the Indonesia Stock Exchange and publish the financial statements from 2014 to 2016. Using purposive sampling method, the sample obtained was 132 company and obtained 396 observation data. Criteria of financial difficulties in this study was measured by using earning per share, while statistical analysis used in this study was logistic regression. The results showed that the ratio of leverage (debt ratio) and liquidity ratio (current ratio) had no significant value to predict financial distress in the company, while the ratio of total asset turnover and profitability financial ratios had significant value to predict financial difficulties in the company.

Keywords: financial difficulties, financial ratios, earnings per share.

ANALISI RASIO UNTUK MEMPREDIKSI KESULITAN KEUANGAN

(Studi Kasus Pada Perusahaan Manufaktur di Bursa Efek Indonesia)

Disusun Oleh:

Ade Hermawan

Dosen Pembimbing:

Drs. Imam Subekti , Ak., M.Si., Ph.D.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh rasio keuangan untuk memprediksi financial distress di perusahaan. Rasio keuangan dalam penelitian ini menggunakan indikator rasio leverage, rasio likuiditas, rasio aktivitas, dan rasio profitabilitas. Populasi dalam penelitian ini adalah semua perusahaan yang terdaftar di Bursa Efek Indonesia dan terus menerbitkan laporan keuangan tahun 2014-2016. Berdasarkan metode purposive sampling, sampel yang diperoleh adalah 132 perusahaan pada periode 2014-2016, sehingga diperoleh 396 observasi. Kriteria kesulitan keuangan dalam penelitian ini diukur dengan menggunakan erning per share, sedangkan analisis statistik yang digunakan dalam penelitian ini adalah regresi logistik. Hasil penelitian menunjukkan bahwa rasio leverage (debt ratio) dan rasio likuiditas (rasio saat ini), adalah rasio yang tidak memiliki nilai signifikan utuk memprediksi financial distress di perusahaan., sedangkan rasio aktivitas (total asset turnover ratio)dan rasio profitabilitas (return) adalah rasio keuangan yang memiliki nialai signifikan untuk memprediksi kesulitan keuangan di perusahaan.

Kata kunci: kesulitan keuangan, rasio keuangan, penghasilan per saham

CHAPTER I

INTRODUCTION

1.1 Background

Along with the crisis hit Indonesia, many problems experienced by this nation including the decline in economic activity as more and more bankrupt companies, liquidated banks, and rising unemployment. The cause of this crisis is not simply due to weak economic structure, but because of Indonesia's considerable foreign debt. The crisis led to a sharp decline in the rupiah exchange rate due to the speculation and maturity of large amounts of foreign debt simultaneously so that demand for the dollar increased and the rupiah exchange rate declined. Another problem is the high loan interest rate and the increasingly tight banking liquidity, making it more difficult for the manufacturing industry to obtain investment and working capital loans with low interest rates. To address the problem, the industry began to look to the government for issuing various policies that could save the industry, protect the domestic market from imported goods, especially illegal imports, and provide economic stimulus to stimulate the movement of the manufacturing industry in Indonesia to exist.

To see whether a company is healthy or not, it cannot only be judged from his physical state, for example from the building or development of the company. The most important factor to see the development of a company lies in the financial element, because the financial elements reveal whether the company policy is taken properly or not. Problems that cause bankruptcy is complex because most companies which do not pay attention to financial factors are

unhealthy. The development of financial position has a significant meaning for the company.

The information needed to assess the financial health of a company is company financial reports. The objective of financial report itself is providing information regarding the financial position, performance and changes in financial position of an enterprise. This information is useful to a large number of users in making economic decisions (IAI, 2002). The financial statements are those which contain company information including the balance sheet, income statement, and cash flow statement along with the details of each item in the financial statements. The financial statements are basically the result of an accounting process that can be used as a means of communicating between financial data or the activities of a company with interested parties with the data or activity (Munawir 2007: 2). The financial statements are shown to interested parties in the company as a basis for decision making. With the existence of these financial statements, the parties concerned to companies such as owners of capital and other related parties can know the performance of the company in the present and future.

The financial statements presented by the company can also be a reflection of company performance. The performance is to be achieved by the company, because the performance reflects the company's ability to manage and allocate its resources. For an enterprise performance can be used as a measuring tool in assessing the success of its business and can be used as consideration in the return decision and planning in the future. As for parties outside the company, this information can be used as a material consideration in economic decision making to the company concerned.

The performance of a company can be seen from the aspect of financial and non-financial aspects. The non-financial aspects performance can be done by measuring the division function and power in its organization structure, the level of quality resources, the level of employer and employee well-being, the level of trust the community to the company and the company's level of concern on circles around. Performance assessment through non-financial aspects of relatively more difficult to do, since the assessment of a person different from the results of other people's judgments. So in performance evaluation, most companies use financial aspects.

Financial Ratio is the main tool for financial analysis. The ratio can standardize financial information and can be used as a comparison tool between companies of different sizes. Financial ratios are also helpful in identifying the strengths and weaknesses of a company. The ratio has two methods to compare financial data between companies, namely: (1) the ratio can be used over time to identify the company trend and (2) the ratio can also be used to compare with the ratio of other companies in one industry and the same year (Keown et al, 2001: 63).

In addition to assessing financial performance, financial ratio analysis can also be used to predict the occurrence of financial distress in an industry or company. According Darsono and Ashari (2005: 101) financial distress is the inability of the company to pay the financial obligations at maturity that may cause bankruptcy of the company. Financial distress is different from insolvency conditions. A company experiencing financial distress status between solvent and insolvent. Financial distress reveals that the company is in a very minimum cash flow thus causing the occurrence of "deadweight loses"; it does not mean that it is

already insolvent at this stage. So it can be said that the financial distress means companies in conditions of illiquid, but is still solvent. Financial distress can bring a company experienced a failure on his contract that eventually can be done between the company financial restructuring, creditors and investors.

Prediction of financial distress is not only applied to certain types of companies, but all companies can also be either in poor condition or better. Because the goal of the prediction of financial distress is early warning before the bankruptcy occurs on a company so that company is capable of taking action to stave off bankruptcy and improve their financial performance.

Some studies that use financial ratios to predict a company financial distress include Brahmana (2007), Alifiah, et al (2012), Almilia and Kritijadi (2003), and Platt and Platt (2002). Financial distress studies and corporate bankruptcies like those done by Platt and Platt (2002) use samples in some industries. To control industrial differences, then it is used industry normalizing ratios. Platt and Platt (2002) conducted an investigation of the stability and completeness of bankruptcy models based on industry-relative ratios compared to non-adjusted ratios based on the type of industry. The results of Platt and Platt (2002) studies provide evidence that industry-relative ratios have a higher classification rate compared with unadjusted financial ratios based on the type of industry.

Research conducted by Ahmad (2012) analyzed several causes of companies experiencing financial distress by using financial ratios and management capability as a predictor. The sample used in the research was a manufacturing company listed on the Indonesia Stock Exchange (BEI) during the period 2005-2010. The result of research indicated that the leverage ratio has a

positive correlation to the prediction of the company that is experiencing financial distress, while other variables such as CR, TATO, CATO, ROE, ROA, WCTA, and management capability have a negative relationship in influencing the prediction of financial distress in a company.

Financial indicators used to predict financial distress are leverage ratio, liquidity ratio, activity ratio, and profitability ratio because these ratios are capable to show the financial performance and efficiency of the company in general to predict the occurrence of financial distress. The first financial performance indicator is the leverage ratio. In use, the leverage ratio is also often called the solvency ratio, which includes short-term solvency and long-term solvency (Hanifah, 2013). The leverage ratio measures the ratio of funds provided by the owner to the funds borrowed from the creditor. Total debt to asset ratio (DAR) measures the percentage of funds provided by creditors (Brigham and Houston, 2001). In other words, shows how much the company assets are financed by debt or how much debt the company has an effect on the asset management. This ratio analysis is needed to measure the company's ability to pay its obligations (short-term and long-term) if at any time the company is liquidated or dissolved.

The prediction of a company's financial distress was done by Ahmad (2011) during the period 2005-2010. The ratio of leverage measured by using total debt to asset ratio (DAR) has a significant effect on the possibility of financial distress in a company. The same result is shown by Platt and Platt (2002) which showed that the leverage ratio (notes payable / total assets) have a positive and significant effect on the condition of financial distress. This indicates that the greater the activity of a company financed by debt, the greater the likelihood of the company experiencing financial distress, this is because the greater the

company obligation to pay the debt. On the other hand, different results are shown by Alifiah, et al (2012) which stated that the leverage ratio measured using debt ratio actually has negative coefficient value, which is in contrast to other studies that leverage ratio has a positive relationship direction to the possibility of financial distress in a company. Based on the difference results done by the previous researchers, hence this research used variable leverage ratio to study the influence of leverage ratio to predict financial distress in a company.

The second financial ratio used in this study was the ratio of liquidity. This ratio indicates the ability of the company to meet its financial obligations that must be met, or about the company's ability to meet its financial obligations when billed (Munawir, 2007).

The results of research that has been done by Almilia and Kristijadi (2003) showed that liquidity ratio (current assets / current liabilities) significantly negatively affect the possibility of a financial distress in a company. This shows that the higher the ability of the company to meet its short obligations, the less likely the company experiencing financial distress. On the other hand, different results obtained by Alifiah, et al (2012) that liquidity ratio measured using current ratio (CR) and quick ratio (QR) does not significantly affect the possibility of financial distress in a company. Based on result presented by previous researchers, hence in this research used variable of liquidity ratio to study the influence of liquidity ratio to predict financial distress in a company.

The next financial ratio used in this study was the ratio of activity. This ratio is also often called the operating capacity ratio, where this ratio is used to measure the ability of companies to use their assets effectively to generate sales (Atika, 2012). A high activity ratio indicates that the company is able to generate

high sales amounts, thereby increasing revenues, and vice versa (Alifiah, et al 2012). In this case the activity ratio is measured by using total asset turnover ratio (TATO) that is by comparing total sales with total assets owned by the company.

According to Alifiah, et al (2012), the ratio of activities measured by using total asset turnover ratio (TATO) significantly negatively affect the possibility of a financial distress in a company. This is reinforced by research conducted by Hanifah (2013) which stated that the ratio of operating capacity measured by using total asset turnover ratio (TATO) also significantly negatively affect the possibility of financial distress. On the other hand, the different result is presented by Nella (2011) which stated that total asset turnover ratio (TATO) does not significantly affect financial distress in a company. Based on the differences of research results done by the previous researchers, this study used activity ratio variable to prove the influence of the ratio of activity to predict financial distress in a company.

The last financial ratio used in this study was the profitability ratio. Almilia and Kristijadi (2003) stated that profit margin significantly negatively affect financial distress, which means that the higher the profits obtained by the company, the smaller the company will experience financial distress. Another opinion expressed by Alifiah, et al (2012) which stated that the ratio of profitability measured by using net income to total asset ratio has no significant effect on the likelihood of occurrence of financial distress in a company. This is supported by research conducted by Hanifah (2013) which stated that profitability ratios are not significant in affecting financial distress. Based on the differences of research results by previous researchers, this study used profitability ratio

variables to prove the influence of profitability ratios to predict financial distress in a company.

This research was conducted because the condition in Indonesia currently prone with the financial crisis. This is because, at the end of the year 2017 and early 2018, the exchange rate of the rupiah weakened and reached Rp. 13,750 per U.S. dollar. With the weakening of the exchange rate, the companies importing goods prices from overseas will be more expensive, whereas company exporting goods overseas production is cheaper. Because of such conditions that a company in Indonesia will be more vulnerable to the threat of financial distress. The purpose of this research is to analyze the prediction of the occurrence of financial distress in manufacturing companies listed on the Indonesia Stock Exchange 2014-2016. The period is selected due 2014 up to 2016 is a period where Indonesia is experiencing financial difficulties, and the publication of the latest financial reports data are present.

1.2 Research Question

Financial distress is defined as a stage of declining financial conditions occurring prior to bankruptcy or liquidity (Platt and Platt, 2002). This study was conducted because there are many differences in the results of the study and to improve the ability of financial ratios in predicting financial distress in a company.

Based on the background the research, then the formulated research problems are as follows:

1. Does the leverage ratio have any influence in predicting the possibility of financial distress in a company?

2. Does the liquidity ratio have any influence in predicting the possibility of financial distress in a company?
3. Does the activity ratio have an influence in predicting the possibility of financial distress in a company?
4. Does the profitability ratio have any influence in predicting the possibility of a financial distress in a company?

1.3 Research Objectives

Based on the formulated problem, then the purpose of this research is:

1. Analyzing the influence of the leverage ratio in predicting the occurrence of financial distress in a manufacturing company listed on the Indonesia Stock Exchange.
2. Analyzing the influence of the liquidity ratio in predicting the occurrence of financial distress in a manufacturing company listed on the Indonesia Stock Exchange.
3. Analyzing the effect of activity ratio in predicting the occurrence of financial distress in a manufacturing company listed in Indonesia Stock Exchange.
4. Analyzing the influence of profitability ratios in predicting of the occurrence of financial distress in a manufacturing company listed in the Indonesia Stock Exchange.

1.4 Research Contribution

The expected benefits of this research is:

1. For Theoretically

This research is a manifestation of research role in terms of science, which is expected to increase insight, knowledge, and intellectual ability of researchers.

2. For Practically

   The results of this study is expected to be a mean of science development and can be the basic reference material in conducting further research

3. For The Other Side

   The results of this research are expected to add insights on financial ratio analysis as a tool for predicting changes in the profits will come, so it can be used as consideration in decision making.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical Basis

2.1.1 Clean Surplus Theory

In addition to Positive Accounting Theory, this study was conducted on the basis of Ohlson's Clean Surplus Theory developed by Ohlson (1995). Ohlson's Clean Surplus Theory explains that the market value of the firm can be expressed in the income statement and balance sheet variables. Clean Surplus Theory emphasizes the usefulness of current financial statement information to predict future earnings. The relationship between Clean Surplus Theory with the use of financial ratios in predicting financial distress is the amount of financial ratios as the financial statement variable showing the number of comparisons between the financial statement post one with the other financial posts, is a description of the company's performance which is summarized in the financial report. Therefore the benefit ratio can be used to predict the condition of the company's financial distress.

Accounting functions as important integrating tool in the capital development statement, which includes the relationship between the balance sheet and profit and loss posts; namely book value of equity and profit (Ohlson, 1995). The change in the book value of equity equals to the profit deducted by the dividend or equal to the net of capital contribution. This relationship is called a clean surplus. Clean surplus theory states that the value of the company is reflected in the accounting information contained in the financial statements (Ohlson 1995, and Feltham and Ohlson 1995). Clean surplus theory provides a

framework consistent with measurements indicating that the firm's market value is reflected in the components of the financial statements (Ohlson, 1995; and Feltham and Ohlson, 1995). Ohlson (1995) stated that the company's market value can be known from the balance sheet and income statement.

Financial ratios are figures derived from a comparison of one financial report post with other posts having relevant links (Meiewaty and Setyani, 2005). With these financial ratios, it is clear that various financial indicators can reveal the financial condition of a company or the performance achieved by the company for a certain period.

2.1.2 Positive Accounting Theory

This research was conducted on the basis of Positive Accounting Theory. Positive Accounting Theory is concerned with predictions of actions by corporate managers such as the choice of accounting policies by firms and how firms will respond to new accounting standards (Riahi and Belkaoui, 2000). Positive accounting theory holds the view that accounting policy is chosen as part of the problem to minimize contract costs, so as to maintain the company efficiency. Examples of such contracts are: contact with employees, suppliers and capital providers that are the most important part of the company operations. Moral hazard problems arise if the agent does not implement on matters that have been mutually agreed upon in the employment contract.

The predictions made by Positive Accounting Theory are largely interpreted in three hypotheses as informed by Watts and Zimmerman (1986). According to Watts and Zimmerman (1986), the hypotheses are (Riahi and Belkaoui, 2000):

a. The Bonus Plans Hypothesis.

Managers using bonus plans are predicted to choose less conservative accounting policies compared to managers who do not use them. In addition, using bonus plans also opposes the proposed accounting standards that can reduce the reporting of company net income.

b. The Debt-Covenant Hypothesis

Most debt agreements contain agreements that the borrower must meet the terms of the deal. The closer the company accounting policy with the customer to the debt agreement, then the seller of the company is increasingly selective in selecting accounting procedures that shift the reporting of the earnings from the period to come to the current period. The reason is because the addition of net income reporting will reduce the probability of technical failure.

c. The Political Cost Hypothesis

The greater the political costs faced by the firm, the manager prefers to choose an accounting policy that suspends the reporting of current periods earnings into the period to come.

Positive Accounting Theory has a close relationship with the condition of companies experiencing financial distress. Companies that are experiencing financial difficulties can use this theory as a company moves to improve the company's financial performance. The approach of this theory over the company's financial distress is the company can minimize the costs of procurement of a wide range of contacts that are related to the contact, such as the costs of negotiating, monitoring contract performance costs and fees. It is estimated over bankruptcy or other failure. Many of these contacts involve accounting variables, for example: corporate contacts with suppliers depending on variable liquidity and financial

variables, lending requires protection in the form of maintenance of certain financial ratios such as debt to equity ratio or interest earned, or rate of cumulative working capital or equity (Riahi and Belkaoui, 2000).

Before the contact agreement between the creditor and the debtor, the creditor proposes a condition to limit the debtor on the distribution of dividends of the shareholders in order to fulfill its debt obligations in accordance with the contract agreement. According to the debt agreement hypothesis, when the company is experiencing financial distress, then there is a big possibility of the company to breach the agreement. The debt agreement hypothesis predicts that a high debt to equity ratio will enable managers to choose less conservative accounting policies than low ratio scores. However, if the debt agreement is breached by the debtor, the creditor can apply the sanction to the debtor.

2.2 Previous Research

There have been many previous studies summarized both in the form of journals and theses related to Zavgren's analysis to predict a company's financial distress condition, some of which are as follows.

The first journal of the Department of management of projects, The University of Manchester entitled "*Apply Logit Analysis in Bankruptcy Prediction*" studied bankruptcies at 100 manufacturing companies in Europe in 2000-2005. This study developed a method to predict the four legit variable of bankruptcies. The overall accuracy of prediction is 81% while the type I error rate is 92% and 70% for type II. In general, the legit method indicating some predictors are company's profitability, operational efficiency, and management of human resources which may indicate the company health level and the company bankruptcy potency. Based on experimental results, it can be concluded that the

cause of manufacturing companies going into bankruptcy are (1) a decrease in the ability of the company in generating profits, (2) inadequate operating capital and loss of the ability to pay interest, (3) lack of good relations with customers, and (4) the low quality of human resources (Ying Zhaou and Taha m.s. Elhag, s. 2007).

Hanifah (2013) examined how big the influence of corporate governance and financial indicators on financial distress. This study used sample manufacturing companies listed on the BEI period 2009-2011. The method of analysis used was logistic regression test (logistic regression). The independent variables were board size, board of commissioner size, independent commissioner, managerial ownership, institutional ownership, audit committee size, liquidity, leverage, profitability, and operating capacity. Independent variables were used to examine the influence on financial distress. Financial distress criteria were based on interest coverage ratio (EBIT / interest expense). The results showed that the size of the board of directors, managerial ownership, institutional ownership, leverage, and operating capacity had a significant influence on the condition of financial distress. While the size of the board of commissioners, independent commissioners, the size of the audit committee, liquidity, and profitability had no significant effect on financial distress.

Alifiah, et al (2012) conducted a study in Malaysia under the title "*Prediction of Financial Distress Companies in The Consumer Product Sector in Malaysia*". This study aimed to predict financial distress using financial ratios. In this study also put forward some of the most effective variables in predicting financial distress in consumer product sector companies listed in Bursa Malaysia. The sample used was consumer product sector companies listed in Bursa Malaysia

period 2001-2010, and divided into sample estimation and sample validation. The method of analysis used was logistic regression test. The independent variables used were leverage ratios, asset management or activity ratios, liquidity ratios, and profitability ratios. The results of this study indicated that debt ratio, total asset turnover ratio, and working capital ratio was significant in predicting financial distress. It is also mentioned that the magnitude of internal and external validity accuracy of each is more than 50%.

Ahmad (2011) conducted a study entitled "*Analysis of Financial Distress in Indonesia Stock Exchange*". The study was conducted with the aim to verify the influence of fundamental factors consisting of financial ratios and management capability to financial distress. This research also aimed to develop upper echelon theory associated with management capability. Logistic regression was used as a method of data analysis. The sample used was manufacturing companies listed on the BEI period 2005-2010. The independent variables used include CATO, CR, DAR, DER, ROA, ROE, TATO, WCTA, educational background of manager, and experience of manager. The findings revealed that CAR, CR, ROA, ROE, TATO, EDU, EXP, and WCTA had a negative effect on financial distress. While DAR and DER had a positive influence on the prediction of the occurrence of financial distress in a company.

Research on the prediction of financial distress was also done by Nella (2011) under the title "Financial Ratio Analysis in Predicting Financial Distress of Wholesale and Retail Trade Companies Listed on Indonesia Stock Exchange". The sample in this research was the wholesale and retail trade company registered in BEI period 2008-2010. There were 25 companies selected as samples after selection using purposive sampling method. Data analysis method used was

logistic regression. The independent variables used were current ratio, debt to equity ratio, operating profit margin, return on equity, total asset turnover. The result of the research showed that current ratio, operating profit margin, and total asset turnover were not significant to financial distress. Conversely, debt to equity ratio and return on equity significantly affected financial distress in a company.

The study was conducted by Atika, et al (2012) under the title "*The Influence of Some Financial Ratios to the Prediction of Financial Distress Condition*". This study aimed to examine the effect of several financial ratios on the condition of financial distress. The sample used was textile and garment companies listed in BEI period 2009-2011 using purposive sampling technique, 14 companies. Data analysis method used was logistic regression. The independent variables that tested the effect on financial distress were current ratio, profit margin, debt ratio of current liabilities to total assets, sales growth, and inventory turnover. The results showed that current ratio, debt ratio, and current liabilities to total assets can be used to predict financial distress in a company, while profit margin, sales growth and inventory turnover cannot be used to predict financial distress in a company.

2.3 Financial Report

2.3.1 Understanding Financial Statements

According to S. Munawir (2007: 2), the financial statements are basically the result of the accounting process that can be used as a tool to communicate between financial data or corporate activities with interested parties.

Financial reporting is a process which is published by the company for shareholders. This report contains basic financial reports and analysis of

management over the operation last year and prospects in the future (Brigham and Haouston, 2010:85).

The Indonesian Accounting Association (IAI) in the Financial Accounting Standards proposes the basic framework for the preparation and presentation of financial statements:

a. The financial statements are part of the financial reporting process
b. Complete financial statements usually include the balance sheet, income statement, statement of changes in financial position, other records and reports and explanatory material that is an integral part of the financial statements.

2.3.2 Financial Reporting Objectives

The purpose of the financial statements in PSAK No. 1 of paragraph 5 is to provide information about the financial position, performance and changes in financial position, a company that is beneficial for most users report in order to make economic decisions, as well as show the accountability of management for the use of the resources entrusted to them.

The purpose of the financial statements by S.Munawir (2007: 3) is

1. "According to the level of costs of various activities of the company.
2. Determining or measuring the efficiency of each part, as well as for initial production or specify collectible gains process level achieved by the company in question.

3. Assessing and measuring the results of the work of each individual who has been given to the responsible party.
4. Determining whether or not it is necessary to use new procedures or policies to achieve better results."

2.3.3 Users of Financial Statements

The financial reporting users use financial reports to meet several needs different information. The users includes current investor, potential investors, employees, lenders, suppliers and other business creditors, customers, the Government and its agencies, and the public (IAI, 2002:2-3).

1. Investor

   Investors need information to help determine whether to buy, hold, or sell the investment. Shareholders also are interested in the information that enables them to assess the company's ability to pay dividends.

2. Employees

   Employees are interested in the information on the stability and probabilities of the company. They are also interested in information that allows them to assess the company's ability in attributing reply service, pension benefits, and the ability to work.

3. Creditors

   Lenders are interested in financial information that allows them to decide whether a given loan money with interest can be paid at the time of its maturity date.

4. Suppliers and creditors

Suppliers and creditors are interested in financial information that allows them to decide whether the number of indebted will be paid at maturity.

5. Customers

   The customers are concern with information on the viability of the company, especially when they are involved in a long term agreement with.

6. Government

   The Government and the various institutions are concerned with the activity of the company. They also need information to regulate the activities of corporations, to determine the tax rules, and to draw up the national income statistics.

7. People

   The company may affect members of the public in the way of sharing. For example, people in a corporate environment can employ and domestic investor protection. The financial statements can help the community by providing information and trend of development of the company as well a series of activities.

2.3.4 Type of Financial Report

According to s. Munawir (2007:5), in general, the financial statements comprise the balance sheet and profit/loss calculation and reports changes to capital. Balance sheet shows the number of activity, reflecting/debt and capital of an enterprise on a certain date, whereas the calculation of the profit loss report (showing the results that have been achieved by the company in as well as the costs that occur during a certain period) and report changes indicate the source of capital and the use of reason or that causes a change in capital of the company.

Brigham and Houstin (2010:87) stated that there are 4 types of financial statements**:**

a. Balance sheet, reflecting the position of a company at a particular point in time. Post balance sheet is in rows sequentially based on liquidity rate or how long the current needed to transform the post cash over the period of benefit.
b. Income statement, it is a report which summarizes revenue and loads of companies on specific accounting period, usually within one year. Every company has a structure of financial and tax situation of total assets of non-operation.
c. Cash flow statement report is a report on the impact of operating activities, investment, and funding a company operations, investments and funding a corporation on the cash flow of a particular accounting period along. The company producing a high cash flow not always reported in the cash balance sheet shows high results anyway. Cash flow is not usually used to increase the cash account, but used to pay dividends add to inventory, debt fund to pay off, invested in fixed assets, and repurchase common stock.
d. Reports Profit on hold is a report that describes how large the amount of gain or profit of the company on hold on an undertaking and not in paying dividend. The profit figures on hold in the balance is the amount of the profits obtained annually throughout the company's history.

2.3.5 Limitation of Financial Report

S. Munawir (2007:9) mentioned that some limitations of financial statements including:

a. The financial statements made periodically is essentially an interim report and is not a final report. Because of that all, or the number of things reported in the financial statements do not indicate the value of liquidity or the realization of where in the interim report is contained or embodied in personal data done by accountants or management question.
b. The financial statements show the numbers in dollars that are visible are certainly and precisely, but it is actually the basic preparation with a standard value that allows no relative and changeable. Financial statements made upon the concept of going concern or the presumption that the company will continue to run so that the activity remains at a value based on historical value or the price of acquisition or reduction in activity against a fixed amount the depreciation accumulation. Therefore, the numbers that are listed in the financial report only is a value that is not necessarily the same as the State of the market right now as well as the value of his successor.
c. The financial statements is recording results of financial transactions or money value of some period of time and date, where the purchasing power of money is decreasing compared with the previous year. So an analysis by comparing the data of a few years without any adjustment to changes in the price level will lead to erroneous conclusions.
d. Financial report cannot portray a variety of title that could affect the company's financial position since those factors are not qualified can be expressed in the form of units. As the selling contract approved buy ability

and manager integrity of the company, and some orders which are not able to fill it in and much more.

2.4 Financial Statements Analysis

2.4.1. Definition of Financial Statement Analysis

Financial ratios are the main tool for financial analysis. The ratio can standardize the financial information that can be used as a comparison tool between companies with different sizes (Keown et al, 2001: 108)

According to s. Munawir (2007 : 64), the analysis of the ratio is the ratio that describes a hyphen or other amount of comparison using ratio analysis in the form of array which can explain or describe to the analyst about the good the bad the financial position of a company especially when compared with the ratio numbers comparison.

So the analyst can deduce that the analysis of the financial statements required for the users of financial statements to supply more detailed information over the company's financial position and future conditions.

2.4.2 Methods and Techniques of Analysis of Financial Statements

According to s. Munawir (2007:36) there are two methods of analysis of financial statements including:

1. " Horizontal Analysis
   Horizontal analysis is the analysis of the benchmarking using financial report of some period of time, so it will be known its development. Horizontal method is also called as dynamic analysis method.
2. Vertical Analysis
   Vertical analysis is when financial statements analyzed only includes one period only that is by comparing the post between each other, it will be known the state of financial or operating results of that time."

2.5 Financial Ratio Analysis

2.5.1 Understanding Financial Ratio Analysis

Financial ratio analysis is one of the analytical techniques that are usually used to analyze the financial statements.

According to Brigham and Houston (2001: 79), the analysis of financial ratios is a comparison between financial posts designed to evaluate financial statements.

Financial statement analysis is a ratio that describes a relationship or a certain number of comparisons with other amounts by using a ratio analysis tool. The results will be able to explain or describe about good or bad financial position of a company in view of the ratio comparison as a standard.

In summary it can be concluded that the financial ratio analysis is a comparison between the posts in the financial statements, balance sheets and statements to interpret the financial position and operating results of an enterprise.

2.5.2 Grouping of Ratio Analysis

Each analysis of financial statements has a different purpose or need for the relationship between the financial statement items that apply, so that the ratio figures are according to the needs of an analyst. The types of financial ratios used by companies to determine performance includes four ratio:

1. Liquidity Ratio

   Fred Weston quoted from Kasmir (2008: 129): stated that the liquidity ratio is a ratio that shows the ability of companies in meeting short-term liabilities (debt). Companies that have enough ability to repay short-term debt are called a liquid company, otherwise called illiquid. The liquidity ratios typically used to measure the level of corporate liquidity include:

a. *Current ratio*, this ratio compares current assets with current liabilities. Current Ratio provides information about the ability of current assets to cover current liabilities. Current assets include cash, accounts receivable, securities, inventories, and other assets. While current liabilities include trade payables, notes payable, bank loans, salary payable, and other payables that must be paid immediately. Current ratio is a measure of liquidity ratio calculated by dividing current assets and current liabilities.

b. *Quick Ratio*, this is a balance between current assets minus inventory, with the amount of current debt. Inventories are not included in the quick ratio calculation because inventory is a component of current assets with the smallest level of liquidity. Quick ratio focuses on the more liquid components of current assets: cash, securities and receivables related to current liabilities or short-term debt

2. Leverage Ratio

   This ratio is used to determine the company's ability to meet long-term obligations.

   a. The ratio of total debt to total assets is the ratio between the total debt owned and the entire assets owned by the company.

3. Activity Ratio

   Activity ratio is the ratio used to measure efficiency/effectiveness in using the company's assets.

   In the analysis of the activity ratio used is:

   a. receivable turnover

The ratio measures how many times, on average accounts receivable are collected in a year. This ratio measures the company's efficiency and quality of receivables in the collection of accounts receivable and credit policy. This ratio is usually used in relation to the analysis of working capital, because it measures how fast cycle of company receivables into cash. Figures for the number of day accounts receivable describes the duration accounts receivable that can be billed. The longer the period of repayment of the greater risk the possibility of unbilled receivables.

b. The average age of accounts receivable

This ratio is in use to see how long in need to pay off the debt owned by the company (changing accounts receivable into cash). This ratio is the ratio of the activity of the measuring instrument on the countdown with dividing between trade receivables with sales for 365.

c. Inventory turnover

This ratio illustrates the company's liquidity by measuring company's efficiency in managing and selling supplies owned by the company.

A high inventory turnover indicates that the increasing supply of rotating in one year. This indicates the effectiveness of inventory management. Conversely, if low inventory turnover indicates control over inventory is less effective.

4. Probability Ratio

According to Harahap, Sofyan Safri (2008:304), "the ratio of profitability is the company's ability to earn profits through the entire capability, and

existing resources such as sales activities, cash, capital, number of employees, the number of branches and so on".

a. Profit margin

The ratio is used to calculate the extent to which the capabilities of the company produce a net profit on certain sales levels. This ratio can be viewed directly on the common size analysis for the profit loss report that is on the line late. This ratio can also be interpreted as the ability of the company's pressing charges or the size of the company's efficiency at certain periods.

b. Return on Assets

This ratio is used to view the company's capability in generating profit with all the assets owned by the company. This ratio is also called with the earnings ratios.

c. Return On Equity

This ratio illustrates the company's ability to generate net profit based on certain capital. This ratio is the ratio of probability measurement tool which is computed by dividing between the net profits after tax with a capital.

2.6 Financial Performance

2.6.1 Definition Financial Performance

According to Munawir (2007), performance measurement is an important thing to do because the company is one of the company's control efforts. Performance measurement is used so that it can compete with other companies. Performance information enable the company managers to improve the

performance of the company itself, while for the creditors can use it evaluate the possibility of the loan that can be keep returning, and for shareholders, it is to predict profits, dividends, as well as the stock prices. In addition, the measurement is to show the investor, customers or public that the company has good credibility.

2.6.2 The Purpose of Performance Measurement

S. Munawir (2007; 31) describes the purpose of performance measurement, among others:

1. "To know the level of liquidity, the ability of a company to meet its financial obligations that must be fulfilled, or the company's ability to fulfill its financial obligations at the time of claim.
2. To determine the level of solvency, i.e. the company's ability to meet its financial obligations when the company is liquidated, both short-term and long-term financial liabilities.
3. To determine the level of profitability, the ability to generate profit over a certain period
4. To know the stability of the business, the ability of the company to do business with a stable, which is measured by taking into account the ability of the company to pay interest expenses on these debts precisely in time, and the company's ability to pay dividends regularly to shareholders without experiencing obstacles or financial crisis."

2.7 Financial Distress

2.7.1 Understanding Financial Distress

According to Ross and Westerfield (1993: 871), financial distress is a condition in which the cash flow of a company's operations is not capable of covering or sufficient current liabilities. Financial distress can bring a corporate failure on the contact that finally can be done financial restructuring between companies, creditors and investors.

So it can be concluded financial distress is a situation where the company has the potential to experience bankruptcy because the company is not able to pay

obligations and generate a small profit that gives impact on capital changes so that the restructuring needs in the company concerned.

The analysis of financial difficulties will greatly help the company to make decisions and determine attitudes toward financial difficulties. There are several types of bankruptcies that can be defined as follow:

1. Economic Failure

   The company is not able to cover the total cost, including the cost of capital. Businesses that are experiencing economic failure can continue operations throughout the creditor who wishes to provide additional capital and the owner can receive a rate of return below market interest rates

2. Business Failure

   The term is in the void by Dun and Bradstreet that is a major adjustment failure statistics, to define the business ceased operations with due to a big loss for the lender. Thus a company can be classified as failed although not bankrupt normally. An undertaking may discontinue or close his business but is not considered as failed

3. Technical Insolvency

   A company can be assessed bankrupt if it does not meet the obligations that are mature. Technical insolvency may indicate a temporary shortage of liquidity, at which time a company can raise money to meet its obligations and livelihood. On the other hand, if this technical insolvency is an early symptom of economic failure, it is a sign of a financial disaster.

4. Insolvency in Bankruptcy

A company is said to be insolvency bankruptcy when the book value of total liabilities exceeds the market value of the company's assets. This is a more serious situation when compared with technical insolvency. Because in general this is a sign of the economic failure that leads to the liquidation of a business. It should be noted that firms that underwent insolvency in bankruptcy do not need to go through legal bankruptcy.

5. Legal Bankruptcy

   The term bankruptcy is used for any failed company. The company cannot be declared bankrupt unless it is formally filed by law

2.7.2 Causes of Financial Distress

Factors that cause financial distress can be divided into two, namely:

1. Internal factors, this factor is derived from within the company itself both including financial and non-financial factors. Financial factors include the presence of debt that is too large and heavy burden for the company, short-term liabilities greater than current assets, slow liabilities, bad debt, mistakes in dividend policy, and insufficient depreciation fund. While the non-financial factor is a mistake in the selection of the location, production and scale of business determination, the lack of good organization structure, the errors in the selection of corporate leaders, and the existence of managerial incompetence.
2. External factors, these factors come from outside the company and are outside of the range or control of the company, such as heavy competition, decreased in products demand and the fall in prices.

2.7.3 Financial Distress Stage

Financial difficulties leading to bankruptcy can be analyzed and identified through several stages. The stages of bankruptcy are as follows:

1. The first stage

   This stage is characterized by the presence of one or more unfavorable operating and financial circumstances that may not be realized by both the credit and management. The initial condition includes:

   a. Decrease in sales volume due to changes in taste or consumer demand
   b. Increase in commercial costs
   c. The increase of competition level
   d. Failure to expand

2. Stage of liquidity difficulties

   This stage is usually preceded by the inability of the company to pay short-term debt and operating costs. This is because the company lacks the liquid tools and capital needs to be invested in inventory receivables

3. Financial insolvency phase

   This stage is marked by companies that are unable to get funding from regular sources to repay due debts.

4. Total insolvency phase

   The most prominent symptom of this stage is that the amount of debt is greater than the value of the firm's activity. This situation became more severe after the official statement and the company is dissolved (Harnanto, 1998: 496).

2.7.4 Improvement Alternative Financial Distress

Companies that can't choose or choose not to make the payment of debt maturity on the creditors have two basic options, liquidity and reorganization. Liquidity means the termination of the company on an ongoing basis, involving selling company assets to the value of the rest. The process includes after deducting transaction costs distributed to creditors based on set of priority. Liquidity value selected is if it is greater than the value of the company it continues. While the reorganization is an option to keep company to sustain his life, but sometimes involves the new securities issue to replace the old securities.

2.7.4.1 Informal Improvements

With informal proses, companies that are experiencing difficulties may request extension of payment time (debt, loan, supplier bill, etc.). The creditors agree to acquire a portion of the total debt of the debtor called composition:

1. Restructuration

   Restructuring is done so that companies experiencing financial difficulties can breathe. The way that the company can reduce the burden, usually by releasing or relieve from a fixed financial burden.

2. Liquidity

   In some situations, information can also be done. If the company's value of liquidity is higher than the value of the company goes on, then the company should be liquidated. Informal liquidity has advantages because the value obtained is higher than the formal liquidity

2.7.4.2 Formal Improvements

Formal improvements are made when the company financial difficulties can no longer be resolved with informal improvements and the company's

proposition has been poorly assessed. Formal improvements involve third parties such as courts. One type of formal improvement for companies is to reorganize. Without following the legal procedure adopted, the reorganization process has several features as follows:

1. The company is declared in an insolvency state if it cannot settle its cash obligation on the due date or if the total amount of the obligation exceeds the amount of the firm's activities. The problem is complex, then what is categorized as a corporate liability shall be clearly defined and modified. There is a need to be formulated rescheduling requirements that can be accepted by creditor. This procedure is translated into the technique of rescheduling a fixed expense or converting short-term debt into long-term debt or converting it into equity
2. New funds should be held for working capital and rehabilitation of company property
3. All sources and causes of managerial and operational difficulties must be discerned and seek ways to overcome them.

In addition to these formal and informal improvements, according to Ross and Westerfield (1996) in Ubud Salim (2011), common ways in the company to deal with financial distress, among others are:

1. Selling the main asset
2. Merger with other companies
3. Reduce capital expenditure and development
4. Issuing new shares
5. Negotiations with other banks and creditors

6. Swap debt into shares

7. Filing bankruptcy (Law No.37 / 2004 on bankruptcy)

2.7.5 Benefits of Prediction Financial Difficulties

Financial distress can be used as an early warning system for the occurrence of a problem within the company. Companies with higher levels of debt can experience financial distress more quickly when compared to companies with low debt levels. According to Lukman Syamsudin (2004: 38), specifically information about the prediction of bankruptcy has benefits for several parties, namely:

1. The lender

   Bankruptcy information can be useful for decision making who will be given a loan, and then useful to take the policy to monitor the existing loan.

2. Investors

   Stock investors or bonds issued by a company would be very interested to see the possibility of bankruptcy.

3. Government

   In some business sectors, government agencies have a responsibility to overcome the business. The government has an interest in seeing the signs of bankruptcy earlier so that action needs to be done early.

4. Accountant

   Accountants have an interest in the information of the continuity of a business because the accountant will assess the going concern of a company.

5. Management

Bankruptcy information is used to perform preventive measures as bankruptcy costs can be avoided or can be minimized.

2.8 Analysis of Altman Methods (Multiple Discriminant Analysis) and Zavgren Methods (Logistic)

2.8.1 Z-Score (Altman) Methods

Basically, Multiple Discriminant Analysis (MDA) can be used to know the characteristic variables that distinguish existing population groups, and be used as criterion of grouping.

The analysis of financial ratios to predict corporate bankruptcy becomes an interesting topic after Altman (1968) invented a formula for detecting corporate bankruptcy with a very well-known term, called Z-score.

The Z-Score method (Altman) uses various ratios to create a difficulty prediction tool. The characteristics of these ratios are used to identify the possibility of future financial difficulties. Such financial difficulties will be reflected in the calculated ratios. There are five financial ratios used in this method.

Altman discovers five types of financial ratios that can be combined to see the difference between a bankrupt and a non-bankrupt company. Z-Score (Altman) is determined using the following formula as put forward by Darsono, et al. (2004: 105).

$$Z = \beta1(WCTA) + \beta2(RETA) + \beta2(EBITTA) + \beta3(MVEBVL) + \beta4(STA)$$

Where:

WCTA = Working Capital/Total Asset

RETA = Retained Earning/Total Asset

EBITTA = Earnings before Income Tax/Total Asset

MVEBVL = Market Value of Equity/Book Valued of Debt

STA = Sales/Total Asset

β1 β2 β3 β4 = Coefficient parameters

2.8.2 Zavgren Methods

The predictive research of transportation changed around 1980 - 1990 by using logit analysis as a substitute for Multiple Discriminate Analysis (MDA). In logit analysis, its value is expressed in probability not in numerical form. This probability calculation also allows measurement of management effectiveness. Associated with the use of logit analysis, in 1985 Christine V. Zavgren developed a method of predicting financial difficulties and corporate bankruptcies.

In the journal "Are Failure Prediction Models Widely Useable? An Empirical Study a Belgian Dataset "in 2007 Christine V. Zavgren developed his prediction method and corrected the problem. Zavgren's method predicts bankruptcy by developing a series of ratios and coefficients of financial statement data, the ratios include: receivable turnover, inventory turnover, cash position, liquidity level, ROI, solvency level and working capital flows.

The probability function of bankruptcy logit method can be formulated as follows:

$Pi = 1 / (1 + e^{y})$

Where

y = multivariate function consisting of constants and coefficients of a set of variables (financial ratios)

e = number

Zavgren uses logit method to distinguish between bankrupt and non-bankrupt companies. The Zavgren method defines y as follows:

$$Y = \beta o + \beta 1\ (INV) + \beta 2\ (REC) + \beta 3\ (CASH) + \beta 4\ (QUICK) + \beta 5\ (ROI) + \beta 6\ (DEBT) + \beta 7\ (TRUN)$$

Where:

Y = multivariate functions

β0 = constant

β1 β2 β3 β4 β5 β6 β7 = coefficient parameters

INV= inventory / sales

REC = accounts receivable / inventory

Cash = cash / total assets

QUICK = (Current assets - inventory) / current liabilities

ROI = net operating income / (total assets - current liabilities)

DEBT = long-term debt / (total assets-current liabilities)

TURN = sales / (working capital + fixed assets)

2.9 Hypothesis Development

2.9.1 Leverage Ratio to Financial Distress

According to Clean Surplus Theory post financial reports can determine a company financial distress. One is the leverage ratio. Leverage ratio analysis is needed to measure the company's ability to pay its obligations (short-term and long-term). The leverage ratio emphasizes how much debt proportion is used in the funding of a company's assets. In addition, in the theory of positive accounting managers must consider several accounting variables. Managers must decide whether to make a third party penalty or not. When deciding to use third party

funds, lending requires protection in the form of maintenance of certain financial ratios such as debt to equity ratio or interest earned.

One of the financial ratios used to predict financial distress is the leverage ratio. In this research leverage ratio is measured by using total debt to asset ratio (DAR). Total debt to asset ratio (DAR) is a ratio used to measure part of assets used to guarantee the overall obligation or debt owned by the company.

Ahmad (2012) said that the total debt to asset ratio (DAR) was significantly proportional to the financial distress in a company. This means that the greater the company's funding comes from debt, the greater the likelihood that the company will experience financial distress. It is because the greater the company's obligation to pay off the debt. On the other hand, different results are presented by Alifiah, et al (2012) who stated that the leverage ratio measured by using debt ratio actually had a negative relationship to the company's chances of experiencing financial distress. In his research also explained that it can happen because companies in Malaysia are too dependent on the use of debt as a source of funding, so if the higher the debt in a company, then the smaller the chances of experiencing financial distress. Based on the above argument, the formulated hypothesis is:

H1 = Leverage ratio has a positive effect on financial distress.

2.9.2 Liquidity Ratio to Financial Distress

According to Clean Surplus Theory post financial reports can determine company financial distress. The liquidity ratio shows the ability of a company to meet its financial obligations that must be met immediately, or the ability of the company to meet its financial obligations on billed.

According Almilia (2003) which shows that the current ratio has an influence on the financial distress of a company. In his research stated that the liquidity ratio using current ratio (CR) in the measurement significantly positive effect on the possibility of financial distress in a company. This means that the greater the availability of funds to pay off the current liabilities, the greater the chances of the company experiencing financial distress. However, different results proposed by Alifiah, et al (2012), liquidity ratios measured using current ratio (CR) and quick ratio (QR) has no significant effect on the prediction of financial distress in a firm. The research is also supported by the research that has been done by Hanifah (2013), where the results of his research stated that the liquidity ratio has no significant effect on the possibility of financial distress in a company. Based on the argument above, the hypothesis that can be formulated is as follows:

H2 = Liquidity ratio has a positive effect on financial distress.

2.9.3 Activity Ratio to Financial Distress

According to Clean Surplus Theory post financial reports can determine a company's financial distress. Activity ratio is a ratio that measures the company's ability to manage its assets for the purposes of the operation of the company. Company assets for operating activities will increase the number of production companies, so that it can eventually increase sales and profit, owned the company.

Financial distress can be predicted using financial ratios. One financial ratios is the ratio of activity. In this research, activity ratio is measured by using total asset turnover ratio (TATO). Total asset turnover ratio (TATO) is used to measure the capability of funds embedded in the overall rotating asset over a period or the capability of the capital invested to generate income.

Kurniasari research, et al (2017) stated that the ratio of activities that are proxyed by total asset turnover ratio (TATO) is significant in influencing the chances of financial distress in a company. On the other hand, Nella, et al (2013) stated that total asset turnover ratio (TATO) has no significant effect on the possibility of financial distress in a company. Based on the argument above, the hypothesis is as follows:

H3 = Activity Ratio has a positive effect on financial distress.

2.9.4 Profitability Ratio to Financial Distress

According to Clean Surplus Theory, financial reports can determine a company's financial distress. A positive profitability indicates that the company has succeeded in marketing its products, so it will increase sales and ultimately also increase the profit earned by the company. Financial ratios can be used to predict financial distress. One of the financial ratios is the profitability ratio.

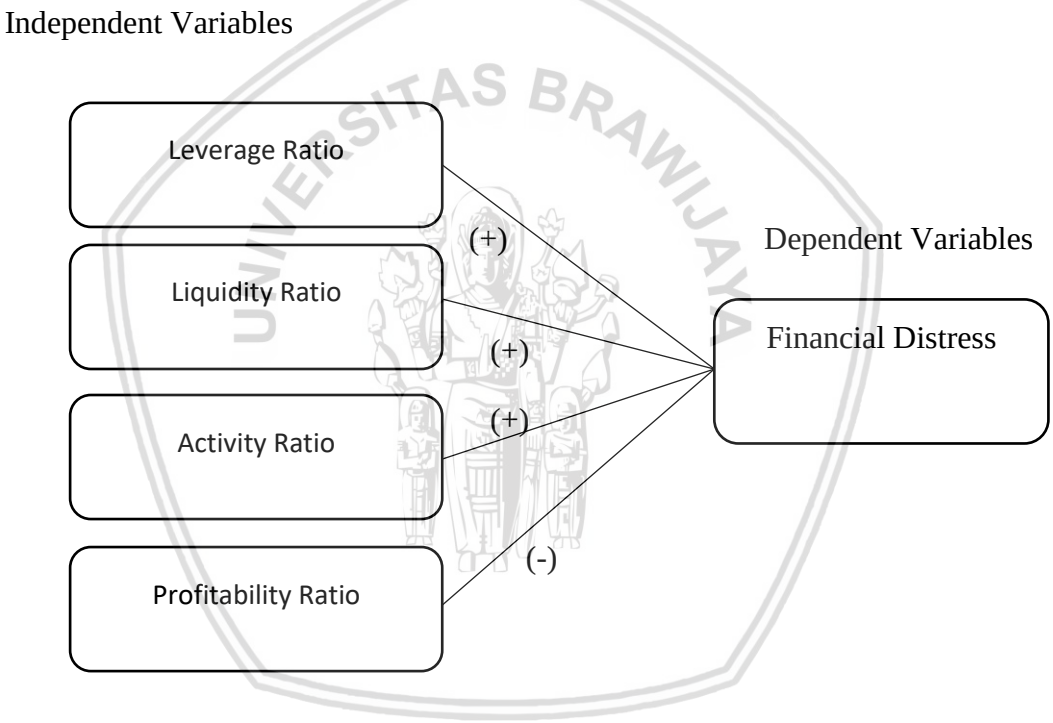
In the research that has been done by Almilia and Kristijadi (2003) states that profit margin significantly negatively affect the financial distress, which means that the higher the profit the company gets, the smaller the company will experience financial distress. The same result is also stated by Nella (2011) stated that profitability ratios measured by using return on equity (ROE) significantly negatively affect the possibility of financial distress occurring in a company. On the other hand, different results found by Alifiah, et al (2012) that the financial ratios that are most significant in influencing financial distress are not derived from profitability ratios. Based on the argument above, the formulated hypothesis is as follows:

H4 = Profitability ratios negatively affect financial distress.

2.10 Theoretical Framework

Based on the above discussion, a framework that illustrates the relationship of independent variables, in this case is the ratio of leverage, liquidity ratio, activity ratio, and profitability ratios to the dependent variable financial distress is as follows:

Table 2.1



CHAPTER III

RESEARCH METHOD

3.1 Types of Research

This research used explanatory research type that tries to explain the relation between one variable with another variable. In this study, there are at least two variables connected that serves to explain, predict and control a symptom. Therefore, this research will explain about the interactive or reciprocal relationship between the variables studied and the extent to which relationships affect each other. The main reason for choosing this type of explanatory research is to test the proposed hypothesis in order to explain the effect of free variables (leverage ratio, liquidity ratio, activity ratio, and profitability ratio), on the dependent variable (financial distress) either partially or simultaneously in the hypothesis.

3.2 Population and Sample

The population taken in this research is a manufacturing company that is registered and still active in Indonesia Stock Exchange during 2014 until 2016. Sampling is done by saturated sampling method. According Sugiyono (2006), saturated sampling is a technique of sampling when all members of the population used as a sample. To avoid sampling error, criteria of research sample is determined, including:

1. The company is a manufacturing company listed on the Indonesia Stock Exchange. The reason for the selecting manufacturing companies as the population in this study is that manufacturing companies are quite

sensitive to any changes in economic conditions and is the type of company with the largest number of among other types of companies listed on the stock exchange Indonesia.

2. The company must be listed on the Indonesia Stock Exchange in 2014 - 2016 consecutively and meet the financial reporting published during that period.
3. The financial statements should have a closing year ending 31 December. This is done because the closing year of the book in each company is different although as a large company closes the book at the end of the fourth quartile. If the accounting period is not the same will lead to a biased analysis and cannot show the actual condition.
4. The sample of companies experiencing financial distress was represented by companies that have negative earnings per share (EPS) and not paying dividend for 2 consecutive years (based on Amilia and Kristijadi research, 2003) in 2014-2015. For category companies not experiencing financial distress was represented by companies that have positive EPS and not distressing dividend payouts. While the data of 2016 financial statements is data to be processed.

3.3 Types and Data Sources

Data used in this research is secondary data, which is a source of research data obtained indirectly or through intermediary media. The secondary data used include:

1. Data of audited financial statements for 2014-2016 companies (downloaded from the website of Indonesia Stock Exchange).

2. Indonesian Capital Market Directory (ICMD) 2014-2016 period.

3.4 Techniques and Data Collection

Data collection techniques used are documentation that is by documenting the financial statements and summarizing financial statement of manufacturing companies listed in the Indonesian Capital Market Directory (ICMD) listed on the Stock Exchange in 2014 - 2016. Financial statement data is an audited financial statements.

3.5 Identification of Variables

The data used for the identification of these variables were data from 2014 to 2016 as data for modeling. Based on the problem and formulation of the hypothesis, the variables studied are as follows:

3.5.1 Dependent Variable

Dependent variable in the form of numeric was divided into two categories, companies with probability of experiencing financial distress and companies with nonprobability of experiencing financial distress. Companies that experience financial distress are represented by companies that have negative share earnings and do not make dividend payments for three consecutive years. The dependent variable used in this study is the financial distress condition of the company which is the category 0 variable for non-financial distress and 1 for the financial distress company.

3.5.2 Independent Variable

The independent variable is the variable that affects the dependent variables. The Independent variables in this study is financial ratios that are represented by

the leverage ratio, the liquidity ratio, activity ratio, and profitability ratio. The explanation about the variables is as follows:

1. Leverage Ratio

   Leverage ratio is the ratio used to measure the company's ability to meet its obligations both short-term and long-term if at any time the company is liquidated. This ratio shows how much the company's assets are funded from debt. With the high debt of the company, the company is forced to generate more income in order to pay the debt and interest. Therefore, there is a positive relationship between leverage ratio and financial distress. In this research, leverage ratio is measured using total debt to asset ratio.

   $$\text{DAR} = \frac{total\ debt}{total\ assets}$$

2. Liquidity Ratio

   Liquidity ratio represents a firm's ability to meet its financial obligations when billed. The high liquidity ratio shows the company's ability to pay its financial obligations at maturity. Therefore, it is expected that there is a negative relationship between the ratio of liquidity and financial distress. The proxy measurement used to measure the liquidity ratio in this study is the current ratio

   $$\text{CR} = \frac{Current\ asset}{current\ liabilities}$$

3. Activity Ratio

   Activity ratio is used to measure company ability to manage its assets to provide cash inflows for the company. The high ratio of activity shows companies capability to generate revenue over the usage of their assets for operations. Therefore, it is expected that there is a negative relationship

between activity ratio and financial distress. In this study, the measurement used to measure the activity ratio is total asset turnover ratio

$$\text{TATO} = \frac{net\ sales}{total\ assets}$$

4. Profitability Ratio

Profitability ratio is a ratio that measures company's ability to generate profit over a certain period. The high profitability of a company will show that the company is able to generate high profits, so the increase in assets will also occur and will keep the company from the threat of financial distress. Therefore, it is estimated that there is a negative relationship between profitability ratios with financial distress. In this research, profitability ratio is measured using return on asset.

$$\text{ROA} = \frac{net\ profit}{total\ assets}$$

3.6 Data Analysis Method

3.6.1 Descriptive Statistics Analysis

Descriptive statistical analysis is a statistical method that serves to describe the data that has been collected. The data can be described as mean, standard deviation, variant, maximum, minimum, sum, range, skewness, and kurtosis. Mean indicates the mean value of the sample. Maximum and minimum indicate the largest and smallest value of the sample. Next, range shows the difference between the maximum and minimum values. The skewness serves to measure the slope of the data distribution, while kurtosis is used to measure the peak of the data distribution. Both are a measure to see if data is normally distributed or not.

In this study, descriptive statistical analysis is used to describe financial ratios as independent variables. The financial ratio in its measurement is represented by leverage ratio, liquidity ratio, activity ratio, and profitability ratio.

3.6.2 Data Quality Test

a. Assessing Data Feasibility and Regression Model

The first step taken for logistic regression model analysis is to test the feasibility of data and regression model. In testing the feasibility of data used Omnibus Test of Model. In this study using a significant level of 0.05 or α = 5%. If the value of Sig <0.05 then the data is considered feasible. While the test on the regression model is done by using Hosmer and Lameshow Goodness-of-Fit Test. If the Hossmer and Lameshow Goodness-of-Fit Test value of Sig> 0.05 then the model is said feasible (Yuanita, 2010).

b. Assessing Overal Model Fit

Tests in this study were conducted based on the function of Likelihood. Which compares the initial Likelihood (-2LL) -2Log value with the final -2Log Likelihood (-2LL) value. If the initial value of -2LL or at blocknumber = 0 is greater than the final -2LL value or at blocknumber = 1, so it can be concluded that the regression model is better. In other words that the model has been hypothesized fit with existing data (Yuanita, 2010).

c. Testing Coefficient of Determination (R2)

This test is to test the extent to which the dependent variable can be explained by the independent variable used coefficient of determination. Nagelkerke R2 is a modification of Cox and Snell's coefficients which to

ensure that its value is a variation from zero to one. The step is done by dividing the value of Cox and Snell's R Square with the maximum value. Interpreted also the value of Nagelkerke R2 with R2 value in multiple linear regression (Yuanita, 2010).

d. Multicollinearity Test

This test is intended for those who conduct independent variables research more than one. Multicollinearity can be detected by looking at the value of Variance Inflation Factors (VIF), with the test criteria if the VIF value <10 then there is no multicollinearity and vice versa if VIF> 10 then there is multicollinearity among the independent variables (Nazzaruddin and Basuki, 2016). Multicollinearity test can also be seen on correlation coefficient value in table Correlation Matrix. If the correlation coefficient value> 0.90 then there is multicollinearity so that later the results obtained are not biased then the variable must be removed from the regression model (Yuanita, 2010).

e. Table Classification

To calculate the value of the correct estimation and also wrong then used table classification (Ghozali, 2006). In this classification table shows that the accuracy of the model in classifying the observation.

3.6.3 Hypothesis Testing

In testing the hypothesis, statistical analysis method used in this research was binary logistic regression method to predict financial distress condition of manufacturing companies listed in Indonesia Stock Exchange period 2014-2016. Binary Logistic Regression is used if the dependent variable is a dichotomy variable or a binary variable. In this study, financial distress is a dichotomous

variable which has two different levels, i.e. companies experiencing financial distress and companies that do not experience financial distress. According Ghozali (2006) on the method of logistics analysis does not require the existence of Classic Assumption Test for the dependent variable.

Hypothesis testing in this study is done by looking at the Wald Test value and the level of significance (Sig) of each independent variable with a level of confidence that is 5%. According to Hair et al in Yuanita (2010), the criteria contained in testing this hypothesis are:

a. If the level of significance (Sig) Wald Test> level of confidence 0.05 or α = 5% and beta coefficients is not in the direction of the hypothesis, then there is an insignificant influence, therefore, the hypothesis is rejected.
b. If the level of significance (Sig) Wald Test <level of confidence 0.05 or α = 5% and beta coefficients is in the direction of the hypothesis, then there is a significant influence, therefore, the hypothesis accepted.

Logistic Regression Model in this research as follows:

$$\mathbf{Ln}\ \frac{P}{1-P} = \mathbf{b0 + b1LEV + b2LIKUID + b3AKTIV + b4PROFIT + e}$$

Explanation:

- $\mathrm{Ln}\ \frac{P}{1-P}$ = The probability of a company experiencing financial distress (t)
- b0 = Constants
- LEV = Leverage Ratio (Total Debt to Asset Ratio) (t-1)
- LIKUID = Ratio of Liquidity (Current Ratio) (t-1)
- AKTIV = Activity Ratio (Total Asset Turnover Ratio) (t-1)
- PROFIT = Profitability Ratio (Return on Asset) (t-1)

- b1 = Regression coefficient of leverage ratio
- b2 = Regression coefficient of liquidity ratio
- b3 = Regression coefficient of activity ratio
- b4 = Regression coefficient of profitability ratios
- e = Error

CHAPTER IV

RESEARCH RESULT AND DISCUSSION

4.1 Description of Research Objects

This description of the research object is to examine the factors that affect Financial distress. The data used in this study are independent variables including leverage ratio, liquidity ratio, activity ratio and profitability ratio. While the dependent variable used in this study is financial distress.

The sample of research used in this study is the financial statements of mining and manufacturing companies that have been audited and listed on the Indonesia Stock Exchange (BEI) for 3 years, i.e. 2014 to 2016. Sample selection used in this study were selected using purposive sampling criteria as mentioned in the previous chapter. As for the detailed sample selection is presented in Table 4.1:

Tabel 4.1

Number	Criteria	Total
1	Number of manufacturing companies listed on IDX during the period of 2014 and 2016.	144
2	Number of manufacturing companies that do not display complete data of audited financial statements ended by 31 December as noted in the financial statements.	(12)
	The Total Number of sampled companies.	132
	Total number of samples (132 companies x 3 years during 2014 - 2016).	396

See appendix 1

Based on the companies meeting the criteria of research criteria, there were 396. Due to some incomplete of predefined criteria and not supported by completeness of the data, there were some companies taken out from the sample.

4.2 Data Analysis Method

4.2.1 Descriptive Statistics

Before discussing the descriptive statistics of each variable, first, it will be discussed about condition of each independent variable used as predictor of financial distress in a company.

Tabel 4.2 Statistik Deskriptif

	N	Minimum	Maximum	Mean	Std. Deviation
Leverage Ratio (DAR)	396	4.093	505.611	55.373	51.657
Liquidity Ratio (CR)	396	10.645	46583.992	344.811	2339.392
Activity ratio (TATO)	396	-15.320	38806.622	203.175	1946.181
Profitability Rati(ROA)	396	-5208.512	259.594	-7.916	262.513
Finansial Distress	396	0	1	0.283	0.451

See appendix 3

Based on the results of descriptive statistics Table 4.2 obtained as follows:

a. Leverage Ratio *(DAR)* X_1

Based on the results of the analysis, it is known that the average value of DAR (leverage ratio) of manufacturing companies is amounted to 55.37. the table above shows that the lowest leverage ratio is 4.09. There are more than one third of companies showing 4.09 score indicating that the leverage ratio of the company is very low. The highest leverage ratio is 505,657 owned by Asia Pacific Fibers Tbk d.h Polysindo Eka Persada Tbk. Leverage ratio shows the company's ability to meet its obligations,

both short-term and long-term if at any time the company is liquidated. The higher leverage ratio will describe the amount of money from outside the company used to invest in assets to generate profits for the company. The higher the amount of a company's debt, the higher the risk to be borne and the return to be paid.

b. Liquidity Ratio *(CR)* X_2

Based on the results of the analysis, it is known that the average value of Liquidity Ratio (CR) of the manufacturing companies studied is 334,871. The table shows that the lowest Liquidity ratio is 10.645. This value indicates that the Liquidity ratio of the company is very low. The highest Liquidity ratio is 46583,992 owned by Jaya Pari Steel Tbk. Liquidity ratio can indicate the company's ability to meet its financial obligations that must be met immediately, or the company's ability to meet its financial obligations when billed. The greater the liquidity ratio that the higher company's ability has. The greater the ratio of current assets to current debt means that the higher the ability of the company to cover its current liabilities. The high current ratio can indicate the existence of excessive cash that can mean two things namely the amount of profits that have been obtained or the result not used by the company to finance its operation.

c. Activity ratio*(TATO)* X_3

Based on the results of the analysis, the average activity ratio (TATO) in manufacturing companies studied is amounted to 203,175. The table indicates that the lowest activity ratio value is -5208.512. This value indicates that the Liquidity ratio of the firm is very low. The highest activity ratio is 38806,622 owned by Multi Prima Sejahtera Tbk d.h Lippo

Enterprises Tbk. Activity ratio can show how far the assets have been used in the activities of the company or show how many times the asset cycled within a certain period. The greater the value of this ratio then the operational conditions of the company the better. If the asset rotation is faster, the usage of the entire asset in generating profit is more optimal sales. High value ratios can also indicate the same amount of assets to increase sales volume. Total assets turnover is important to inform the creditors, owners of companies, and management companies, the efficiency use of all assets in the company can be seen.

d. Profitability Ratio *(ROA)* X_4

Based on the results of the analysis, the average profitability ratio (Roa) of manufacturing companies is amounted to -7.916. The value of the lowest profitability ratio is -15.320. This indicates that the profitability ratio of the company is very low. The highest profitability ratio is 259,594 owned by Kedaung Indag Can Tbk. This ratio shows how much net profit obtained from all the assets owned by the company. Therefore, it is used profit after tax and average company's wealth. Thus, this ratio connects the profits derived from its operations by the amount of investment or assets used to generate the operating profit. the greater the ratio the better because it means the greater the company's ability to generate profits.

4.3 Logistic Regression Test Results

Testing of the hypothesis aims to prove the effects of DAR, CR, TATO, and ROA on Financial Distress. Because the dependent variable is ordinal (Financially Distress / Non-Financial Distress), testing of the hypothesis is done

by using logistic regression test. Stages in testing by using logistic regression test can be explained as follows:

4.3.1 Test the feasibility of regression models.

The feasibility of the regression model was assessed using Hosmer and Lemeshow's Goodness of Fit Test. If the statistical value of Hosmer and Lemeshow Goodness of fit is greater than 0.05 then the model can predict the observed value or it can be said the model is acceptable for the data observation.

Test results using Hosmer and Lemeshow Test are shown in the following table:

Tabel 4.3

Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1.	14.083	8	,063

See appendix 4

Based on the results in Table 4.3 above, the test shows Chi-square value is 14,083 with significance (p) at.063. Based on these results, because the value of significance is greater than 0.05, then the model can be predict the value of observations or it can be said that the model is acceptable because it matches the observation data.

4.3.2 Assessing the overall model *(overall model fit)*.

The next step is to test the overall model (overall model fit). The test is done by comparing the value between -2 Log Likelihood (-2LL) at the beginning (Block Number = 0) with the Log-Likelihood (-2LL) value at the end (Block

Number = 1). The existence of a value reduction between the initial 2LL (initial -2LL function) and the -2LL value in the next step (-2LL final) indicates that the model is hypothesized to fit the data (Ghozali, 2005).

The following table shows the result of comparison between the initial -2LL with the final -2LL.

Tabel 4.4

Value Comparison Early -2LL end -2LL Value

	-2LL	**Nilai**
1	Beginning (block 0)	438,656
2	End (block 1)	83,381

See appendix 4

Based on Table 4.4 above, the initial value of -2LL is 438.656. While in block 1 or model after inclusion of leverage ratio variable, liquidity ratio, activity ratio, and profitability ratios of -2logL value is 83,381. This indicates a large decrease in the value of -2logL which allows for the existence of the relationship between the independent variable and the dependent variable. Statistics -2logL also can be used to determine whether the entry of independent variables can significantly improve the fit model.

The -2logL value can be seen on the value of chi square in omnimbus test model coefficient. Omnimbus test result is obtained chi square value (decrease value -2logL) of 355,275 with a significance level at 0.00. Because the value of significance is smaller than 0.05, it can be concluded that with the entry of independent variables together can improve the fit model.

The probability results of each respondent and the distribution of opportunity results show the tendency of variables as follows

Tabel 4.5

Classification Table

Observed	Predicted		
	Financial Distress		Precentage Corerect
	Non Finansial distress	Financial Distress	
Step 1 Financial Distress			
Non Financial Distress	298	2	99,3
Financial Distress	9	87	90,6
Overall Percentage			97,2

See appendix 4

Based on Table 4.5 can be seen that from 396 samples, there are 298 respondents who are non-financially distress as predicted using logistic regression analysis. There are 2 samples experiencing financial distress, in other words 99.3% of 300 respondents are non-financial distress. Then, from 96 respondents who are in financially distress, 87 respondents of them turn into non-financial distress or 90% of 96 respondents are Financially Distress. Based on the results of the analysis, the model is reliable in predicting the respondents of 97.2%.

4.3.3 Coefficient of Determination (R^2)

The coefficient of determination value on the logistic regression model is shown by the value of Nagelkerke R Square. This value can be interpreted as R Square value in multiple regression.

Tabel 4.6 Negelkerke R Square

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	83,381[a]	,592	,884

See appendix 4

Based on the results of Table 4.6 logistic regression test (see appendix), it is obtained Nagelkerke R Square value at 0.884 which indicates that the dependent variable variability that can be explained by independent variable is 88.4%, while the rest of 11.6% is explained by other variables outside research model. This shows that the independent variable effects 88.4% of the dependent variable.

4.4 Hypothesis Testing

The research hypothesis is that DAR, CR, TATO, and ROA variables have a significant effect simultaneously to Financial Distress. The test of significance is used to test this hypothesis. The hypothesis testing was done by comparing the value of Omnibus Test of Model Coefficients that is the value of chi square chances calculated with the value of alpha 5% (0.05)

Tabel 4.7

Hypothesis Test Results

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	355,275	4	,000
	Block	355,275	4	,000
	Model	355,275	4	,000

See appendix 4

In the Table, chi square probability value is 0.000 ≤ α 0,05 showing that the variables DAR, CR, TATO, and ROA have significant effect simultaneously to Financial Distress or the hypothesis proposed in this research is accepted..

1. **Test the Regression Coefficient (Wald Test) To Test the Significance of Each Variable**

   Logistic regression model is presented in the following table.

Table 4.8

Logistic Regression Coefficient Test Results

Variabel	B	S.E.	Wald	Df	Sig.	Exp(B)
DAR	-,005	,012	,203	1	,652	,995
CR	,000	,000	,014	1	,906	1,000
TATO	,008	,003	5,704	1	,017	1,008
ROA	-2,066	,382	29,207	1	,000	,127
Constant	-,716	,797	,808	1	,369	,489

See appendix 4

Based on Table 4.8 above, the test results yield the following regression model:

Y= -0,716 -0,005 X1 + 0,000 X2 +0,008 X3 – 2,066 X4

Based on regression model, the result of hypothesis testing can be explained as follows:

H_1 : Leverage ratio has a positive effect on financial distress

Wald value of leverage ratio (DAR) is 0.203 with a significance level at 0.652. With a significance level above 5% and a negative coefficient b, it can be said that there is no significant influence of leverage ratio in predicting financial distress of a company; the negative b value means that the higher leverage ratio will decrease opportunity companies to identify financial distress. This shows that logistic regression model Hypothesis 1 is rejected.

H_2 : Liquidity ratio has a positive effect on financial distress.

Wald value of liquidity ratio (CR) is 0.14 with a significance level at 0.906 with the significance level below 0.05. Therefore, it can be said that there is no significant influence of the ratio of activity in predicting financial distress of a company. In addition, in the table also shows that the liquidity ratio has a positive direction coefficient b; means that the greater the ratio of liquidity owned by the company, the greater the company will experience financial distress, and vice versa. It can be said that logistic regression model for Hypothesis 2 is rejected because the significance value is more than 0.05.

H_3 : Activity Ratio has a positive effect on financial distress

The activity ratio (TATO), the wald value is 5,704 with the significance level at 0.040 with significance level below 0.017. Therefore, it can be said that there is a significant influence of the ratio of activity in predicting financial distress of a

company. In addition, the activity ratio coefficient b has a positive direction, which means that the greater the ratio of activities owned by the company, the greater the company will experience financial distress. It can be said that logistic regression model for hypothesis 3 is accepted

H_4 : Profitability ratios negatively affect financial distress.

Profitability ratio (ROA) Wald value is 27.207 with a significance level at 0.000 and significance level is smaller than 0.05; it can be said that the profitability ratio is proved to be significant in affecting financial distress of a company. In addition, the profitability ratio has a negative coefficient value b, which means that the higher profitability ratio owned by the company, the smaller the company's chances are indicated financial distress. This shows that logistic regression model for Hypothesis 4 is accepted.

4.5 Discussion

4.5.1 The Influence of Leverage Ratio on Financial Distress

Based on the analysis results obtained that the leverage ratio can moderate the softening financial distress. The results show that the leverage ratio can weaken the company experiencing financial difficulties. Leverage ratio (DAR) is earned from the total amount of receivables from the total assets. When investors want to invest on company, it is not enough to know the prospective revenue, investors also need to look at other things including leverage ratios. Because if the total amount of debt owned by the company is higher than the total assets, the burden on the company will be higher too.

The results of this study are in line with empirical studies conducted previously by Alifiah, et al (2012). This research stated that the leverage ratio

measured by using debt ratio actually has a negative relationship to the company's chances of experiencing financial distress. This research also explained that it can happen because companies in Malaysia are too dependent on the use of debt as a source of funding, so if the higher the debt in a company, then the smaller the company's chances of experiencing financial distress.

The leverage ratio shows the company's burden to cover the debt. An investor buys and maintains a company's stock in the hope of acquiring a dividend or capital gain. But when the burden of large companies to pay off the debt to eat the dividend will go down so that the effect on the results obtained by investors.

4.5.2 The Influence of Liquidity Ratios on Financial Difficulties

Based on the results of the analysis, the ratio of liquidity effect is not significant to financial distress. This result shows that the ratio of liquidity has relevance of accounting value. The ratio of liquidity (CR) is earned from current assets divided by current liabilities. This shows that when the high liquidity ratio in a company may be affected by financial distress. This condition occurs due to many companies that have short-term debt resulted in less efficient companies using current assets, so it cannot provide good indicator for investors in investing capital.

In addition, the liquidity ratio information can be used as a reference because the low value in the Current Ratio indicates that the company may have difficulty meeting its current liabilities. However, investors or prospective creditors should also pay attention to the operating cash flow of the company in order to better understand the level of liquidity of the company. If the company's Current Ratio is low, investors or creditor candidates can assess the financial

health of the company concerned using operating cash flow condition of the company.

If the current ratio is too high (value more than 2 times), then the company may not use its current assets or short-term financing facilities efficiently. It also indicates a possible problem in working capital management. However, for the creditor, the high current ratio is better than the low current ratio, because with high current ratio means the company tends to be more able to fulfill the debt obligation that matures in the next 12 months.

This result is supported by Alifiah, et al (2012), which stated that the liquidity ratio measured by using current ratio (CR) has no significant effect on the prediction of financial distress in a company. Similarly, Hanifah (2013) stated that the liquidity ratio does not significantly affect the possibility of financial distress in a company.

4.5.3 The Influence of Activity Ratio on Financial Distress

Based on the results of the analysis, the activity ratio affects the financial distress. This result shows that the ratio of liquidity has relevance of accounting value. The activity ratio (TATO) is earned from sales divided by total assets. Total assets turn over describes the level of efficiency of the company's overall asset usage in generating certain sales volume in accordance with notes of the financial statements.

The greater this ratio the better the company's operational condition is. Therefore, the asset rotation is faster to generate profit and the use of the entire asset in generating sale is more optimal. High value ratios can also mean that the same amount of assets can increase sales volume. Total assets turnover is important to know by the creditors, owners of companies, and management

companies, the efficiency of the use of all assets in the company can be seen. The total assets turnover is important to the creditors and owners of the company, but it will be even more important for the management of the company, as this will show the efficient use of all the assets in the company.

This result is supported by Kurniasari (2017), which stated that the ratio of activity affect the financial distress in the company.

4.5.4 The Influence of Profitability Ratio on Financial Distress

Based on the results of the analysis, the profitability ratio can moderate the weakening of financial distress. This result shows that profitability ratio has relevance of accounting value. Profitability ratio, (ROA), is earned from net income divided by total assets. By knowing ROA, it is known whether the company operational activities have been effective to generate profits. Net income is the overall measure of the overall sustainability of the firm. Net income can affect the company's strength to obtain a thread as well as investment.

The greater the ROA, the more profit level achieved by the company, the better the company position on the asset usage is. In other words, the higher this ratio the better the asset productivity in obtaining net profit is. This has an impact on the increase of investors in the company because of the attraction of a large return as well.

The result of this study is supported by Almilia and Kristijadi (2003) who stated that profit margin significantly and negatively affects financial distress, which means that the higher profit earned by the company, the smaller the company will experience financial distress. The same result is found by Nella (2011) who stated that profitability ratios measured using return on equty (ROE)

significantly and negatively affect the possibility of financial distress occurring in a company.

CHAPTER V

CONCLUSIONS, LIMITATIONS OF RESEARCH AND SUGGESTIONS

1.1 CONCLUSIONS

This study aims to see how big the influence of leverage ratio, ratio of liquidity, activity ratio, and probability ratio to financial distress by observing annual report of manufacturing company listed in Indonesia Stock Exchange in 2014-2016. Based on the analysis, the following conclusions are formulated as follow:

The results show that first hypothesis testing, the leverage ratio has no effect on financial distress. The second hypothesis shows that the liquidity ratio does not affect the financial distress on manufacturing companies listed on the Indonesian stock exchange in 2014-2016. The third hypothesis testing shows that the ratio of activity affects the positive and significant influence on financial distress on manufacturing companies listed on the Indonesian stock exchange in 2014-2016. The higher the ratio of activity to the company, the higher the financial distress condition. Finally, the fourth hypothesis test show that the profitability ratio has a negative and significant effect on financial distress on manufacturing companies listed on the Indonesian stock exchange in 2014-2016. The higher the profitability ratio of the company, the lower the financial distress.

5.2 Limitations of Research

This study was conducted with some limitations of research which with these limitations can affect the results of research. Object research using

manufacturing companies with the number of companies that observed only 144 samples which have not described the entire company in Indonesia.

The period of this study is also relatively short ie the year 2014-2016, where other studies using a relatively longer research period.

This research uses only 4 independent variables namely levergae ratio, liquidity ratio, activity ratio and profitability ratio. While there are many other factor factors that can affect the financial distress on the company, so this study does not cover the overall factors that affect the value of the company.

This study uses only earnings per share to determine that the company is experiencing financial distres or not. Because not all financial distress seen from the number of shares. Investor also want to see how a company's profit can be used for operations while paying off debts. So, we can be used also EBIT in compare debt.

5.3 SUGGESTIONS

For further research, it is advisable to extend the prediction period and observation period and use other measures to proxy the company's financial distress or use more proxies in determining financial distress. Future studies should increase the number of research samples by lengthening the time period of the research so that the results of research can reflect the real conditions more. Further research is expected to use variables associated with the value of financial distress.

The management should consider profitability and company activities in performing corrective actions if there is any indication that the company is

experiencing financial distress. Because in this study, both ratios have a significant influence on the condition of financial distress.

Investors and potential investors should view the financial statements that can be used as a basis in taking the right decision to invest in a company, especially probability and activity because in this study both ratios proved to have a significant influence in predicting the financial distress of a company.

BIBLIOGRAPHY

S. Munawir, 1981, *Analisis Laporan Keuangan Edisi Kedua*, Liberty, Yogyakarta.

Keown, J. Arthur, John D. Martin, J. Willam Petty, and David F. Scott, Jr, 2001, *Financial Management Princples and Applications*, Prentice Hall, New Jersey.

Ross, Stephen A., Randolph W. Westerfield, and Jeffrey F. Jaffe, 1993, *Corporate Finance Third Edition*, Richard D. Irwin Inc, America.

Ooghe, Hubert and Sofie Bakaem, 2007, Are Failure Prediction Models Widely Useable? An Empirical Study Using a Belgian Dataset, (http://www.ssrn.com).

Gibson, N. Brian, 1998, Bankruptcy Prediction: The Hidden Impact of Derivatives, (http://www.ssrn.com).

Luciana Spica Almilia, 2003, Analisis Rasio Keuangan Untuk Memprediksi Kondisi Financial Distress Perusahaan Manufaktur Yang Terdaftar di Bursa Efek Jakarta, JAAI, Vol. 7, No.2, December 2003

Zhou, Ying and Taha M.S. Elhag, 2007, Apply Logit Analysis in Bankruptcy Prediction, (www.google.com).

Brigham, Eugene F dan Joel F. Houston, 2006, *Dasar-dasar Manajemen Keuangan Edisi* 10 Buku 1, Alih bahasa: Ali Akbar Yulianto, Salemba Empat, Jakarta.

Ikatan Akuntansi Indonesia, 2004, *Pedoman Standart Akuntansi Keuangan*, Salemba Empat, Jakarta.

Aryati Titik and Hekinus Manao, 2002, Rasio Keuangan sebagai Prediktor Bank Bermasalah di Indonesia, *Jurnal Riset Akuntansi Indonesia*, Vol. 05, No. 02, Hal 137-147.

Atika, Darminto, dan S.G. Hadayani. 2012. Pengaruh Beberapa Rasio Keuangan Terhadap Prediksi Kondisi Financial Distress. "*Jurnal Universitas Brawijaya*, Malang, h. 1-15

Hanifah, O. 2013. Pengaruh Struktur Corporate Governance dan Financial Indicators Terhadap Kondisi Financial Distress. "*jurnal maksi undip*, h. 25-53.

Nella, R. 2011. Analisis Rasio Keuangan dalam Memprediksi Financial Distress Perusahaan Wholesale and Retail Trade yang Terdaftar di Bursa Efek Indonesia. "*journal of accounting*, h.1-14

Platt, H dan M. Platt. 2002. Predicting Corporate Financial Distress: Reflections on Choice Based Sample Bias. "*Journal of Economics and Finance*, Vol. 26, No. 2, h. 184 – 197.

Triwahyuningtias, M. 2012. Analisis Pengaruh Struktur Kepemilikan, Ukuran Dewan, Komisaris Independen, Likuiditas dan Leverage Terhadap Terjadinya Kondisi Financial Distress. "*jurnal maksi undip*, h 34-37.

Brahmana, R. 2007. Identifying Financial Distress Condition in Indonesia Manufacture Industry. "*Journal of accounting*", h. 5-51.

Alifiah, M., N. Salamudin, dan I. Ahmad. 2012. Prediction of Financial Distress Companies in the Consumer Products Sector in Malaysia. "*jurnal UTM* 2013, h. 1-12.

Almilia, L. dan E. Kristijadi. 2003. Analisis Rasio Keuangan untuk Memprediksi Kondisi Financial Distress Perusahaan Manufaktur yang Terdaftar di

Bursa Efek Jakarta. "*Jurnal Akuntansi dan Auditing Indonesia (JAAI)*, Vol. 7 No. 2, h. 6.

Ahmad, G. 2012. Analysis of Financial Distress in Indonesian Stock Exchange. "*Rev. Integr. Bus. Econ. Res*, Vol 2(2), h. 6-36.

Al-Khatib, H dan A. Al-Horani. 2012. Predicting Financial Distress of Public Companies Listed in Amman Stock Exchange." *European Scientific Journal*, July edition vol. 8, No.15, h. 208–215.

Harahap, Sofyan Safri, 1993, *Teori Akuntansi*, PT Raja Grafindo Persada, Jakarta.

Appendix 1. The Manufacturing Company Becoming a Research Sample

Company Name	
1. Indocement Tunggal Prakasa Tbk	67. Selamat Sempurna Tbk
2. Semen Baturaja Persero Tbk	68. Polychem Indonesia Tbk
3. Holcim Indonesia Tbk d.h Semen Cibinong Tbk	69. Argo Pantes Tbk
4. Semen Indonesia Tbk d.h Semen Gresik Tbk	70. Eratex Djaya Tbk
5. Wijaya Karya Beton Tbk	71. Ever Shine Textile Industry Tbk
6. Asahimas Flat Glass Tbk	72. Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk
7. Arwana Citra Mulia Tbk	73. Indo Rama Synthetic Tbk
8. Keramika Indonesia Assosiasi Tbk	74. Apac Citra Centertex Tbk
9. Mulia Industrindo Tbk	75. Pan Brothers Tbk
10. Surya Toto Indonesia Tbk	76. Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk
11. ALKA (Alaska Industrindo Tbk	77. Ricky Putra Globalindo Tbk
12. Alumindo Light Metal Industry Tbk	78. Star Petrochem Tbk
13. Saranacentral Bajatama Tbk	79. Tifico Fiber Indonesia Tbk
14. Beton Jaya Manunggal Tbk	80. Sri Rejeki Isman Tbk
15. Citra Turbindo Tbk	81. Sunson Textile Manufacturer Tbk\)
16. Gunawan Dianjaya Steel Tbk	82. Trisula International Tbk
17. Indal Aluminium Industry Tbk	83. Nusantara Inti Corpora Tbk
18. Steel Pipe Industry of Indonesia Tbk	84. Sepatu Bata Tbk
19. Jakarta Kyoei Steel Work LTD Tbk	85. Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma
20. Jaya Pari Steel Tbk	86. Jembo Cable Company Tbk
21. Krakatau Steel Tbk	87. KMI Wire and Cable Tbk
22. Lion Metal Works Tbk	88. Kabelindo Murni Tbk
23. Lionmesh Prima Tbk	89. Supreme Cable Manufacturing and Commerce Tbk
24. Pelat Timah Nusantara Tbk	90. Voksel Electric Tbk
25. Tembaga Mulia Semanan Tbk	91. Sat Nusa Persada Tbk
26. Barito Pasific Tbk	92. Tiga Pilar Sejahtera Food Tbk
27. Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk	93. Tri Banyan Tirta Tbk
28. Duta Pertiwi Nusantara	94. Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk
29. Ekadharma International Tbk	95. Delta Djakarta Tbk
30. Intan Wijaya International Tbk	96. Indofood CBP Sukses Makmur Tbk
31. Indo Acitama Tbk	97. Indofood Sukses Makmur Tbk
32. Chandra Asri Petrochemical	98. Multi Bintang Indonesia Tbk
33. Unggul Indah Cahaya Tbk	99. Mayora Indah Tbk
34. Argha Karya Prima Industry Tbk	100. Prashida Aneka Niaga Tbk
35. Asiaplast Industries Tbk	
36. Berlina Tbk	

37. Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk
38. Champion Pasific Indonesia Tbk d.h Kageo Igar Jaya Tbk
39. Impack Pratama Industri Tbk
40. Indopoly Swakarsa Industry Tbk
41. Sekawan Intipratama Tbk
42. Tunas Alfin Tbk
43. Trias Sentosa Tbk
44. Yana Prima Hasta Persada Tbk
45. Alkindo Naratama Tbk
46. Dwi Aneka Jaya Kemasindo Tbk
47. Fajar Surya Wisesa Tbk
48. Indah Kiat Pulp & paper Tbk
49. Toba Pulp Lestari Tbk
50. Kertas Basuki Rachmat Indonesia Tbk
51. Kedaung Setia Industrial Tbk
52. Suparma Tbk
53. Pabrik Kertas Tjiwi Kimia Tbk
54. Grand Kartech Tbk
55. Astra International Tbk
56. Astra Auto Part Tbk
57. Garuda Metalindo Tbk
58. Indo Kordsa Tbk d.h Branta Mulia Tbk
59. Goodyear Indonesia Tbk
60. Gajah Tunggal Tbk
61. Indomobil Sukses International Tbk
62. Indospring Tbk
63. Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk
64. Multistrada Arah Sarana Tbk
65. Nippres Tbk
66. Prima alloy steel Universal Tbk

101. Nippon Indosari Corporindo Tbk
102. Sekar Bumi Tbk
103. Sekar Laut Tbk
104. Siantar Top Tbk
105. Ultrajaya Milk Industry and Trading Company Tbk
106. Gudang Garam Tbk
107. Hanjaya Mandala Sampoerna Tbk
108. Bentoel International Investama Tbk
109. Wismilak Inti Makmur Tbk
110. Darya Varia Laboratoria Tbk
111. Indofarma Tbk
112. Kimia Farma Tbk
113. Kalbe Farma Tbk
114. Merck Tbk
115. Pyridam Farma Tbk
116. Industri Jamu dan Farmasi Sido Muncul Tbk
117. Tempo Scan Pasific Tbk
118. Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk
119. Kino Indonesia Tbk
120. Martina Berto Tbk
121. Mustika Ratu Tbk
122. Mandom Indonesia Tbk
123. Unilever Indonesia Tbk
124. Chitose Internasional Tbk
125. Kedaung Indag Can Tbk
126. Langgeng Makmur Industry Tbk
127. Charoen Pokphand Indonesia Tbk
128. Japfa Comfeed Indonesia Tbk
129. Malindo Feedmill Tbk
130. Siearad Produce Tbk
131. SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk
132. Tirta Mahakam Resources Tbk

Appendix 2.

Earning per share (Y)

name	Eps		
	2014	2015	2016
INTP (Indocement Tunggal Prakasa Tbk)	1.437,09	1.183,48	1.051,37
SMBR (Semen Baturaja Persero Tbk)	34	36	26
SMCB (Holcim Indonesia Tbk d.h Semen Cibinong Tbk)	86	23	-37
SMGR (Semen Indonesia Tbk d.h Semen Gresik Tbk)	937	762	762
WTON (Wijaya Karya Beton Tbk)	37,84	19,95	31,26
AMFG (Asahimas Flat Glass Tbk)	1.069	786	600
ARNA (Arwana Citra Mulia Tbk)	35,35	9,51	12
KIAS (Keramika Indonesia Assosiasi Tbk)	5,4	-10,16	-16
MLIA (Mulia Industrindo Tbk)	101,19	-122,23	7
TOTO (Surya Toto Indonesia Tbk)	299	282	16
ALKA (Alaska Industrindo Tbk)	29,07	-11,62	1,13
ALMI (Alumindo Light Metal Industry Tbk)	5,95	-87,04	-162
BAJA (Saranacentral Bajatama Tbk)	-0,91	-5,19	19,11
BTON (Beton Jaya Manunggal Tbk)	9,8	8,78	-8
CTBN (Citra Turbindo Tbk)	429	136	-14
GDST (Gunawan Dianjaya Steel Tbk)	-1,65	-6,73	3,87
INAI (Indal Aluminium Industry Tbk)	70,76	90,33	112
ISSP (Steel Pipe Industry of Indonesia Tbk)	29,91	22,19	14
JKSW (Jakarta Kyoei Steel Work LTD Tbk)	-64,21	-153,98	-19
JPRS (Jaya Pari Steel Tbk)	-9	-29	-26
KRAS (Krakatau Steel Tbk)	-274	-125	-135
LION (Lion Metal Works Tbk)	94	88	81
LMSH (Lionmesh Prima Tbk)	79	20	65
NIKL (Pelat Timah Nusantara Tbk)	-36	-32	12
TBMS (Tembaga Mulia Semanan Tbk)	310	135	270
BRPT (Barito Pasific Tbk)	-13,5	-13,5	256
BUDI (Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk)	6,81	4,55	7,7

DPNS (Duta Pertiwi Nusantara)	46,62	33,1	34
EKAD (Ekadharma International Tbk)	58	67	126
INCI (Intan Wijaya International Tbk)	61	94	55
SRSN (Indo Acitama Tbk)	2,34	2,58	1,84
TPIA (Chandra Asri Petrochemical)	81	108	1.232,55
UNIC (Unggul Indah Cahaya Tbk)	99,9	-9,45	804
AKPI (Argha Karya Prima Industry Tbk)	57	45	86
APLI (Asiaplast Industries Tbk)	6,76	1,35	18,43
BRNA (Berlina Tbk)	77	-17	15
FPNI (Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk)	-16	6,75	5,4
IGAR (Champion Pasific Indonesia Tbk d.h Kageo Igar Jaya Tbk)	33,6	31,07	48,12
IMPC (Impack Pratama Industri Tbk)	40,45	15,89	21,22
IPOL (Indopoly Swakarsa Industry Tbk)	8,1	5,4	12,15
SIAP (Sekawan Intipratama Tbk)	-3,26	-1,07	-0,92
TALF (Tunas Alfin Tbk)	43	25	22
TRST (Trias Sentosa Tbk)	11	9	12
YPAS (Yana Prima Hasta Persada Tbk)	-13	-15	-16
ALDO (Alkindo Naratama Tbk)	19,99	24,99	25,92
DAJK (Dwi Aneka Jaya Kemasindo Tbk)	43,26	-175,76	-146
FASW (Fajar Surya Wisesa Tbk)	36,93	-124,66	313
INKP (Indah Kiat Pulp & paper Tbk)	311	549	500
INRU (Toba Pulp Lestari Tbk)	204.120	6.210	3.643
KBRI (Kertas Basuki Rachmat Indonesia Tbk)	-1,89	-17,93	-11,75
KDSI (Kedaung Setia Industrial Tbk)	113	28	116
SPMA (Suparma Tbk)	33	-29	53
TKIM (Pabrik Kertas Tjiwi Kimia Tbk)	133	6,75	39
KRAH (Grand Kartech Tbk)	35	-7,85	4
ASII (Astra International Tbk)	474	357	374
AUTO (Astra Auto Part Tbk)	180	66	87
BOLT (Garuda Metalindo Tbk)	59	78	46
BRAM (Indo Kordsa Tbk d.h	430	311	577

Branta Mulia Tbk)			
GDYR (Goodyear Indonesia Tbk)	91	-4	54
GJTL (Gajah Tunggal Tbk)	81,22	-89,92	179
IMAS (Indomobil Sukses International Tbk)	-45,72	-16,54	-104
INDS (Indospring Tbk)	193,27	1,44	75
LPIN (Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk)	-478	-665	-2.394
MASA (Multistrada Arah Sarana Tbk)	94	-4050	-985
NIPS (Nippres Tbk)	33	21	40
PRAS (Prima alloy steel Universal Tbk)	9	18	-3,8
SMSM (Selamat Sempurna Tbk)	75	74	79
ADMG (Polychem Indonesia Tbk)	-82	-83	-72
ARGO (Argo Pantes Tbk)	-1215	-405	-1080
ERTX (Eratex Djaya Tbk)	187	446	16
ESTI (Ever Shine Textile Industry Tbk)	-39	-1,35	21
HDTX (Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk)	-810	-1080	-945
INDR (Indo Rama Synthetic Tbk)	-18	202	27
MYTX (Apac Citra Centertex Tbk)	-48	-81	-110
PBRX (Pan Brothers Tbk)	20	18	31
POLY (Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk)	-405	-135	-54
RICY (Ricky Putra Globalindo Tbk)	22	17	17
STAR (Star Petrochem Tbk)	0,07	0,02	0,06
TFCO (Tifico Fiber Indonesia Tbk)	-12	-4	17
SRIL (Sri Rejeki Isman Tbk)	36	40	43
SSTM (Sunson Textile Manufacturer Tbk)	-11	-9	-12
TRIS (Trisula International Tbk)	23,18	23,31	5,35
UNIT (Nusantara Inti Corpora Tbk)	2	6	11
BATA (Sepatu Bata Tbk)	54	99	32
BIMA (Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma)	116	-30	29
JECC (Jembo Cable Company Tbk)	158,13	16,42	875
KBLI (KMI Wire and Cable Tbk)	18	29	83
KBLM (Kabelindo Murni Tbk)	18	11	19
SCCO (Supreme Cable Manufacturing and Commerce Tbk)	665	773	1.656
VOKS (Voksel Electric Tbk)	-104,16	0,33	192
PTSN (Sat Nusa Persada Tbk)	-26730	1080	11.475

AISA (Tiga Pilar Sejahtera Food Tbk)	110	100	184
ALTO (Tri Banyan Tirta Tbk)	-4	-10	-10
CEKA (Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk)	69	179	420
DLTA (Delta Djakarta Tbk)	383	238	317
ICBP (Indofood CBP Sukses Makmur Tbk)	454	257	309
INDF (Indofood Sukses Makmur Tbk)	70	45	39
MLBI (Multi Bintang Indonesia Tbk)	377	236	446
MYOR (Mayora Indah Tbk)	18	55	61
PSDN (Prashida Aneka Niaga Tbk)	-20	-32	-46
ROTI (Nippon Indosari Corporindo Tbk)	37	53	55
SKBM (Sekar Bumi Tbk)	82	44	30
SKLT (Sekar Laut Tbk)	25	29	30
STTP (Siantar Top Tbk)	94	141	133
ULTJ (Ultrajaya Milk Industry and Trading Company Tbk)	101	180	243
GGRM (Gudang Garam Tbk)	2.810	3.345	3.470
HMSP (Hanjaya Mandala Sampoerna Tbk)	92	93	110
RMBA (Bentoel International Investama Tbk)	-310,96	-226,32	-86
WIIM (Wismilak Inti Makmur Tbk)	53,59	62,34	50
DVLA (Darya Varia Laboratoria Tbk)	73	97	136
INAF (Indofarma Tbk)	0,38	2,12	-5
KAEF (Kimia Farma Tbk)	46,08	47,07	48
KLBF (Kalbe Farma Tbk)	44	42	49
MERK (Merck Tbk)	8	2,463	343
PYFA (Pyridam Farma Tbk)	5,58	7,71	9,62
SIDO (Industri Jamu dan Farmasi Sido Muncul Tbk)	27,83	29,3	32
TSPC (Tempo Scan Pasific Tbk)	129	116	119
ADES (Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk)	53	56	95
KINO (Kino Indonesia Tbk)	112	234	126
MBTO (Martina Berto Tbk)	3,93	-13,14	8,24
MRAT (Mustika Ratu Tbk)	16	2	-13
TCID (Mandom Indonesia Tbk)	874	2708	806
UNVR (Unilever Indonesia Tbk)	766	766	838
CINT (Chitose Internasional Tbk)	29	20	13

KICI (Kedaung Indag Can Tbk)	36,43	-94,21	1,31
LMPI (Langgeng Makmur Industry Tbk)	2	4	6,87
CPIN (Charoen Pokphand Indonesia Tbk)	107	112	135
JPFA (Japfa Comfeed Indonesia Tbk)	32	44	189
MAIN (Malindo Feedmill Tbk)	-48	-34	129
SIPD (Siearad Produce Tbk)	0,32	-295	11
SULI (SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk)	0,98	1,35	1,6
TIRT (Tirta Mahakam Resources Tbk)	20,65	0,86	28

DAR (X_1)

name	2014 %	2015 %	2016 %
INTP (Indocement Tunggal Prakasa Tbk)	15,58566427	13,0602654	13,3061354
SMBR (Semen Baturaja Persero Tbk)	8,379364039	9,76896399	28,56841701
SMCB (Holcim Indonesia Tbk d.h Semen Cibinong Tbk)	50,1028123	51,2177046	59,21398191
SMGR (Semen Indonesia Tbk d.h Semen Gresik Tbk)	27,16658887	28,0771829	30,86923622
WTON (Wijaya Karya Beton Tbk)	42,07758308	49,2061216	46,58292438
AMFG (Asahimas Flat Glass Tbk)	21,40542938	20,6087898	34,61696782
ARNA (Arwana Citra Mulia Tbk)	27,54072026	37,4656743	38,56414138
KIAS (Keramika Indonesia Assosiasi Tbk)	43,18153359	17,0724914	16,29930367
MLIA (Mulia Industrindo Tbk)	83,95834158	84,3509641	79,11460477
TOTO (Surya Toto Indonesia Tbk)	45,40801508	38,8596871	40,96804847
ALKA (Alaska Industrindo Tbk)	4,092997468	8,19758276	8,814358284
ALMI (Alumindo Light Metal Industry Tbk)	80,89560423	74,184493	81,24995936
BAJA (Saranacentral Bajatama Tbk)	82,18063568	82,9628896	80,00225925
BTON (Beton Jaya Manunggal Tbk)	15,62772851	18,5734726	19,04055502
CTBN (Citra Turbindo Tbk)	44,19594626	41,7663479	26,17323521
GDST (Gunawan Dianjaya Steel Tbk)	36,63018472	32,0561788	33,83293218
INAI (Indal Aluminium Industry Tbk)	86,37720665	81,9718566	80,73115504
ISSP (Steel Pipe Industry of Indonesia Tbk)	57,65630908	53,133893	56,22079208
JKSW (Jakarta Kyoei Steel Work LTD Tbk)	271,5572226	232,979261	261,6978597
JPRS (Jaya Pari Steel Tbk)	6,098708477	8,48031052	12,26979546
KRAS (Krakatau Steel Tbk)	65,98213778	51,7007483	53,26867455
LION (Lion Metal Works Tbk)	30,52555915	28,0343485	31,38017416
LMSH (Lionmesh Prima Tbk)	20,16605925	15,9520713	27,95035252

NIKL (Pelat Timah Nusantara Tbk)	72,01705762	67,0513872	66,56793654
TBMS (Tembaga Mulia Semanan Tbk)	88,87506966	83,3959784	77,70861737
BRPT (Barito Pasific Tbk)	54,79002445	46,9212438	43,65620344
BUDI (Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk)	63,30897493	66,1583924	60,26402829
DPNS (Duta Pertiwi Nusantara)	12,21647433	12,0907306	11,09820382
EKAD (Ekadharma International Tbk)	34,9309978	25,0788445	15,72978528
INCI (Intan Wijaya International Tbk)	7,666745626	9,13852288	9,847373873
SRSN (Indo Acitama Tbk)	30,30827037	40,7601472	43,93731289
TPIA (Chandra Asri Petrochemical)	54,98533758	52,3811927	46,38216307
UNIC (Unggul Indah Cahaya Tbk)	39,05728472	36,6975819	28,96515861
AKPI (Argha Karya Prima Industry Tbk)	53,67842517	61,5849386	57,18354225
APLI (Asiaplast Industries Tbk)	17,77707806	28,2091245	21,61325918
BRNA (Berlina Tbk)	73,15967636	54,5298069	50,76581237
FPNI (Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk)	63,74380781	58,7836947	52,15453044
IGAR (Champion Pasific Indonesia Tbk d.h Kageo Igar Jaya Tbk)	26,50904113	19,1365228	14,95383033
IMPC (Impack Pratama Industri Tbk)	44,07514426	34,5237349	46,14992232
IPOL (Indopoly Swakarsa Industry Tbk)	46,07032812	45,4373663	44,87159043
SIAP (Sekawan Intipratama Tbk)	80,10529827	91,2890043	100,3148105
TALF (Tunas Alfin Tbk)	26,43470246	19,3473204	14,71940277
TRST (Trias Sentosa Tbk)	46,14270142	41,7124889	41,27644354
YPAS (Yana Prima Hasta Persada Tbk)	49,91429871	46,1300409	49,33186325
ALDO (Alkindo Naratama Tbk)	57,07667722	53,2993634	51,04233178
DAJK (Dwi Aneka Jaya Kemasindo Tbk)	35,61410601	61,3120856	74,24819261
FASW (Fajar Surya Wisesa Tbk)	71,04280595	65,0346873	63,20214446
INKP (Indah Kiat Pulp & paper Tbk)	63,17856212	62,7315867	59,01319998
INRU (Toba Pulp Lestari Tbk)	61,38703816	62,5336927	52,12139069
KBRI (Kertas Basuki Rachmat Indonesia Tbk)	47,87577133	64,1979599	66,83181362
KDSI (Kedaung Setia Industrial Tbk)	100	100	100
SPMA (Suparma Tbk)	61,95992556	63,6022831	48,511709
TKIM (Pabrik Kertas Tjiwi Kimia Tbk)	65,63134015	64,3764671	62,38510015
KRAH (Grand Kartech Tbk)	61,19421318	66,9052006	70,2444084
ASII (Astra International Tbk)	49,07913078	48,4454132	46,57119398
AUTO (Astra Auto Part Tbk)	29,50367984	29,2604213	27,89241428
BOLT (Garuda Metalindo Tbk)	42,42537927	17,2093484	13,19801608
BRAM (Indo Kordsa Tbk d.h Branta Mulia Tbk)	42,36778394	37,3159282	33,20800027
GDYR (Goodyear Indonesia Tbk)	55,0622845	53,4998299	50,12666155
GJTL (Gajah Tunggal Tbk)	65,03540868	69,193064	68,72261139
IMAS (Indomobil Sukses International Tbk)	71,37308768	73,0618093	73,82386191
INDS (Indospring Tbk)	20,15178743	24,8593147	16,51849292

LPIN (Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk)	99,87554002	64,0522876	89,20240751
MASA (Multistrada Arah Sarana Tbk)	40,21711391	42,2735002	44,40820452
NIPS (Nippres Tbk)	51,75704766	60,6516036	52,60956964
PRAS (Prima alloy steel Universal Tbk)	46,70449097	52,9578088	56,59149647
SMSM (Selamat Sempurna Tbk)	36,15735699	35,1271199	29,92296229
ADMG (Polychem Indonesia Tbk)	37,63673537	36,2473365	35,5493917
ARGO (Argo Pantes Tbk)	114,1430683	124,296433	149,063787
ERTX (Eratex Djaya Tbk)	74,69631316	67,6621352	62,01736963
ESTI (Ever Shine Textile Industry Tbk)	66,24388428	77,0853235	67,3264404
HDTX (Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk)	85,68226228	71,3846662	75,15658535
INDR (Indo Rama Synthetic Tbk)	60,0215274	63,1187433	64,6458373
MYTX (Apac Citra Centertex Tbk)	113,3117665	129,209402	157,1056646
PBRX (Pan Brothers Tbk)	45,15699185	51,2563822	56,18141197
POLY (Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk)	430,1078138	498,032647	505,6111643
RICY (Ricky Putra Globalindo Tbk)	66,70145016	66,6098033	67,99065402
STAR (Star Petrochem Tbk)	36,98862121	32,8309237	29,00098089
TFCO (Tifico Fiber Indonesia Tbk)	15,76455861	9,41019618	9,515549998
SRIL (Sri Rejeki Isman Tbk)	66,88449574	64,6719781	65,04217828
SSTM (Sunson Textile Manufacturer Tbk)	66,63521456	61,596314	60,79968523
TRIS (Trisula International Tbk)	40,85156491	41,5335436	45,81421633
UNIT (Nusantara Inti Corpora Tbk)	45,01013568	47,2413846	43,63255435
BATA (Sepatu Bata Tbk)	45,07640429	31,1936896	30,76600948
BIMA (Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma)	290,7200321	302,908857	205,577949
JECC (Jembo Cable Company Tbk)	84,36237196	72,9260213	70,36920363
KBLI (KMI Wire and Cable Tbk)	30,89334549	33,7954633	29,39353069
KBLM (Kabelindo Murni Tbk)	55,15049077	54,6941021	49,82639405
SCCO (Supreme Cable Manufacturing and Commerce Tbk)	51,08988066	47,982059	50,18557635
VOKS (Voksel Electric Tbk)	67,66459494	66,8247578	59,89455764
PTSN (Sat Nusa Persada Tbk)	25,71417124	22,7480271	23,81918248
AISA (Tiga Pilar Sejahtera Food Tbk)	51,36967464	56,2198901	53,92098947
ALTO (Tri Banyan Tirta Tbk)	57,05587048	57,0444863	58,72938898
CEKA (Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk)	58,13946969	56,9334498	37,73194835
DLTA (Delta Djakarta Tbk)	23,7654683	18,1735706	15,48026542
ICBP (Indofood CBP Sukses Makmur Tbk)	41,73152483	38,3037424	35,98762616
INDF (Indofood Sukses Makmur Tbk)	53,21156574	53,0427132	46,52670235
MLBI (Multi Bintang Indonesia Tbk)	75,17775255	63,5157719	63,9285146
MYOR (Mayora Indah Tbk)	60,40942719	54,2044427	51,5163953
PSDN (Prashida Aneka Niaga Tbk)	40,28622925	47,7241259	57,12965951
ROTI (Nippon Indosari Corporindo Tbk)	55,5002254	56,0830484	50,58460955
SKBM (Sekar Bumi Tbk)	52,89030531	54,9908173	63,22194124

SKLT (Sekar Laut Tbk)	59,25112486	59,6817905	47,88266909
STTP (Siantar Top Tbk)	52,03452056	47,4459878	49,98688159
ULTJ (Ultrajaya Milk Industry and Trading Company Tbk)	22,09724505	20,9743234	17,6912195
GGRM (Gudang Garam Tbk)	43,10154751	40,150127	37,15138832
HMSP (Hanjaya Mandala Sampoerna Tbk)	52,43899096	15,7709808	19,60385974
RMBA (Bentoel International Investama Tbk)	111,8379421	124,857338	100
WIIM (Wismilak Inti Makmur Tbk)	36,57830946	29,7155731	26,78279358
DVLA (Darya Varia Laboratoria Tbk)	23,66868911	29,2644364	29,50211086
INAF (Indofarma Tbk)	52,58005806	61,3545334	58,32779038
KAEF (Kimia Farma Tbk)	42,87403756	40,1271777	50,75605471
KLBF (Kalbe Farma Tbk)	21,50581702	20,1376097	18,14107689
MERK (Merck Tbk)	23,459615	26,198829	21,67689381
PYFA (Pyridam Farma Tbk)	43,73105698	36,7168695	36,84478311
SIDO (Industri Jamu dan Farmasi Sido Muncul Tbk)	6,917521814	7,07400386	7,689380221
TSPC (Tempo Scan Pasific Tbk)	27,22904857	30,9892121	29,61723597
ADES (Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk)	41,9183284	49,7310264	49,91550257
KINO (Kino Indonesia Tbk)	64,45251937	44,6745878	40,56722111
MBTO (Martina Berto Tbk)	28,91001955	33,0846557	37,89401923
MRAT (Mustika Ratu Tbk)	24,22991254	24,1533726	23,58970431
TCID (Mandom Indonesia Tbk)	32,81187372	17,6372271	18,39466459
UNVR (Unilever Indonesia Tbk)	66,7626659	69,3110179	71,90765746
CINT (Chitose Internasional Tbk)	20,63827373	17,6940338	18,2568063
KICI (Kedaung Indag Can Tbk)	32,26610315	30,2321585	36,33457074
LMPI (Langgeng Makmur Industry Tbk)	51,0869189	49,4117336	49,63109216
CPIN (Charoen Pokphand Indonesia Tbk)	46,68505019	48,682267	41,51106586
JPFA (Japfa Comfeed Indonesia Tbk)	67,13269576	64,3946263	51,31162018
MAIN (Malindo Feedmill Tbk)	69,39340839	60,9147294	53,12026438
SIPD (Siearad Produce Tbk)	53,91533946	67,3200639	55,48355784
SULI (SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk)	142,0189729	125,418269	116,8635978
TIRT (Tirta Mahakam Resources Tbk)	89,69659075	88,0547927	84,45974679

CR(X_2)

name	2014 %	2015 %	2016 %
INTP (Indocement Tunggal Prakasa Tbk)	493,393	488,6574	452,5028
SMBR (Semen Baturaja Persero Tbk)	1299,461	825,9977	286,832
SMCB (Holcim Indonesia Tbk d.h Semen Cibinong Tbk)	59,51838	65,23847	209,4828
SMGR (Semen Indonesia Tbk d.h Semen Gresik Tbk)	220,9541	159,6969	127,2519
WTON (Wijaya Karya Beton Tbk)	140,8984	136,8808	130,9124
AMFG (Asahimas Flat Glass Tbk)	568,436	465,4344	201,983
ARNA (Arwana Citra Mulia Tbk)	160,7543	102,0687	134,8825
KIAS (Keramika Indonesia Assosiasi Tbk)	128,9421	324,1904	313,3357
MLIA (Mulia Industrindo Tbk)	111,3756	87,06594	85,94798
TOTO (Surya Toto Indonesia Tbk)	210,8495	240,6744	218,9948
ALKA (Alaska Industrindo Tbk)	124,5475	101,4744	91,88776
ALMI (Alumindo Light Metal Industry Tbk)	102,454	90,14318	85,4528
BAJA (Saranacentral Bajatama Tbk)	83,64316	85,76761	96,65074
BTON (Beton Jaya Manunggal Tbk)	505,5482	435,7628	421,9801
CTBN (Citra Turbindo Tbk)	137,8138	215,6041	76,96071
GDST (Gunawan Dianjaya Steel Tbk)	140,5475	121,6016	124,0374
INAI (Indal Aluminium Industry Tbk)	108,2379	101,4706	100,2944
ISSP (Steel Pipe Industry of Indonesia Tbk)	135,7929	128,5697	115,9443
JKSW (Jakarta Kyoei Steel Work LTD Tbk)	251,7728	243,7958	191,0479
JPRS (Jaya Pari Steel Tbk)	46583,99	1334,97	1039,618
KRAS (Krakatau Steel Tbk)	74,90435	61,24949	81,44738
LION (Lion Metal Works Tbk)	368,7814	380,2331	355,8659
LMSH (Lionmesh Prima Tbk)	533,3368	808,9127	277,0154
NIKL (Pelat Timah Nusantara Tbk)	111,5779	109,3971	117,0197
TBMS (Tembaga Mulia Semanan Tbk)	79,39072	88,73286	98,79878
BRPT (Barito Pasific Tbk)	140,399	110,5814	133,8264
BUDI (Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk)	104,5921	100,0866	100,1415
DPNS (Duta Pertiwi Nusantara)	1272,56	1335,009	1516,579
EKAD (Ekadharma International Tbk)	232,9616	356,8799	488,5603
INCI (Intan Wijaya International Tbk)	1286,422	967,7734	581,5034
SRSN (Indo Acitama Tbk)	287,1019	216,7082	174,2564
TPIA (Chandra Asri Petrochemical)	139,447	110,2927	152,565
UNIC (Unggul Indah Cahaya Tbk)	232,193	253,3151	295,4902
AKPI (Argha Karya Prima Industry Tbk)	113,1938	189,4545	112,876
APLI (Asiaplast Industries Tbk)	287,9029	117,8453	149,5186
BRNA (Berlina Tbk)	104,6677	114,1136	138,7378
FPNI (Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk)	77,95561	88,22349	100,3324
IGAR (Champion Pasific Indonesia Tbk d.h	325,0804	496,0974	582,1944

Kageo Igar Jaya Tbk)			
IMPC (Impack Pratama Industri Tbk)	207,7835	227,1272	377,2268
IPOL (Indopoly Swakarsa Industry Tbk)	87,32157	87,82772	95,91293
SIAP (Sekawan Intipratama Tbk)	145,9641	107,3316	30,9375
TALF (Tunas Alfin Tbk)	369,2664	437,6422	292,2899
TRST (Trias Sentosa Tbk)	123,7775	130,8475	129,7017
YPAS (Yana Prima Hasta Persada Tbk)	138,2646	122,4744	97,36369
ALDO (Alkindo Naratama Tbk)	130,3621	134,4409	147,831
DAJK (Dwi Aneka Jaya Kemasindo Tbk)	386,2077	122,9272	684,6937
FASW (Fajar Surya Wisesa Tbk)	97,6597	106,775	107,5123
INKP (Indah Kiat Pulp & paper Tbk)	138,1135	140,1771	159,8334
INRU (Toba Pulp Lestari Tbk)	100,2921	102,1539	73,23868
KBRI (Kertas Basuki Rachmat Indonesia Tbk)	179,3337	80,37345	36,04899
KDSI (Kedaung Setia Industrial Tbk)	136,7937	115,6605	123,1923
SPMA (Suparma Tbk)	365,2056	93,06579	246,3038
TKIM (Pabrik Kertas Tjiwi Kimia Tbk)	190,032	143,205	139,4504
KRAH (Grand Kartech Tbk)	147,8927	151,3284	112,4953
ASII (Astra International Tbk)	130,9802	137,9305	123,9383
AUTO (Astra Auto Part Tbk)	133,1865	132,2916	150,512
BOLT (Garuda Metalindo Tbk)	138,7219	439,1017	768,0692
BRAM (Indo Kordsa Tbk d.h Branta Mulia Tbk)	141,5625	180,6471	189,0845
GDYR (Goodyear Indonesia Tbk)	94,4283	81,59399	85,99665
GJTL (Gajah Tunggal Tbk)	201,6304	177,8082	173,0545
IMAS (Indomobil Sukses International Tbk)	103,2433	93,53109	92,41747
INDS (Indospring Tbk)	291,2226	223,1271	303,2737
LPIN (Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk)	216,3205	80,23494	71,35016
MASA (Multistrada Arah Sarana Tbk)	174,7776	128,5154	105,3557
NIPS (Nippres Tbk)	129,3856	104,7323	121,8218
PRAS (Prima alloy steel Universal Tbk)	100,3328	100,5034	100,7117
SMSM (Selamat Sempurna Tbk)	211,2016	239,3789	286,0253
ADMG (Polychem Indonesia Tbk)	255,0947	255,5169	185,8768
ARGO (Argo Pantes Tbk)	40,39229	29,38569	31,34937
ERTX (Eratex Djaya Tbk)	100,2936	125,8157	126,8594
ESTI (Ever Shine Textile Industry Tbk)	70,67293	67,47768	137,942
HDTX (Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk)	97,35099	75,34136	75,25351
INDR (Indo Rama Synthetic Tbk)	138,2747	114,4263	115,6744
MYTX (Apac Citra Centertex Tbk)	42,49785	34,53382	42,1449
PBRX (Pan Brothers Tbk)	382,175	359,8449	376,1421
POLY (Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk)	15,74486	13,00131	10,64493
RICY (Ricky Putra Globalindo Tbk)	132,8345	118,5574	114,8683
STAR (Star Petrochem Tbk)	174,2658	180,8888	199,9332
TFCO (Tifico Fiber Indonesia Tbk)	184,4147	303,4003	323,4633

SRIL (Sri Rejeki Isman Tbk)	505,9223	481,1752	306,0237
SSTM (Sunson Textile Manufacturer Tbk)	119,9317	112,8032	125,2389
TRIS (Trisula International Tbk)	201,9751	194,6792	164,171
UNIT (Nusantara Inti Corpora Tbk)	45,06957	59,62395	64,86069
BATA (Sepatu Bata Tbk)	155,2257	247,0998	257,0114
BIMA (Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma)	92,39989	93,02437	88,66477
JECC (Jembo Cable Company Tbk)	103,2029	105,004	114,0252
KBLI (KMI Wire and Cable Tbk)	332,6353	284,7607	341,0645
KBLM (Kabelindo Murni Tbk)	104,1046	105,7302	130,1632
SCCO (Supreme Cable Manufacturing and Commerce Tbk)	156,6265	168,5819	168,9474
VOKS (Voksel Electric Tbk)	115,7674	116,8135	133,356
PTSN (Sat Nusa Persada Tbk)	261,3083	263,7935	257,8351
AISA (Tiga Pilar Sejahtera Food Tbk)	266,3272	162,287	237,5551
ALTO (Tri Banyan Tirta Tbk)	183,0069	158,2746	75,35321
CEKA (Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk)	146,5631	153,4677	218,9305
DLTA (Delta Djakarta Tbk)	439,9597	642,3675	760,3873
ICBP (Indofood CBP Sukses Makmur Tbk)	219,4201	232,6008	240,6782
INDF (Indofood Sukses Makmur Tbk)	181,0072	170,5334	150,8131
MLBI (Multi Bintang Indonesia Tbk)	51,39058	58,4216	67,9548
MYOR (Mayora Indah Tbk)	208,9937	236,5337	225,0172
PSDN (Prashida Aneka Niaga Tbk)	146,3792	109,713	105,9805
ROTI (Nippon Indosari Corporindo Tbk)	136,6401	205,3422	296,2272
SKBM (Sekar Bumi Tbk)	147,7075	114,5119	110,7233
SKLT (Sekar Laut Tbk)	118,3801	119,2457	131,5318
STTP (Siantar Top Tbk)	148,4189	118,9724	165,4476
ULTJ (Ultrajaya Milk Industry and Trading Company Tbk)	334,4626	374,5477	484,3639
GGRM (Gudang Garam Tbk)	162,0165	177,0359	193,7891
HMSP (Hanjaya Mandala Sampoerna Tbk)	152,7733	656,7409	523,4131
RMBA (Bentoel International Investama Tbk)	102,3196	220,3371	240,1883
WIIM (Wismilak Inti Makmur Tbk)	227,4948	289,3757	339,4226
DVLA (Darya Varia Laboratoria Tbk)	491,4008	352,2906	285,4941
INAF (Indofarma Tbk)	130,3584	126,1508	121,0764
KAEF (Kimia Farma Tbk)	238,6994	192,2822	171,3667
KLBF (Kalbe Farma Tbk)	340,3637	369,7775	413,1144
MERK (Merck Tbk)	458,588	365,2179	421,6602
PYFA (Pyridam Farma Tbk)	162,6808	199,1159	219,0863
SIDO (Industri Jamu dan Farmasi Sido Muncul Tbk)	1025,425	927,6535	831,8226
TSPC (Tempo Scan Pasific Tbk)	300,2186	253,7551	265,2141
ADES (Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk)	152,3378	138,6023	163,5139

KINO (Kino Indonesia Tbk)	81,49204	161,8794	153,6854
MBTO (Martina Berto Tbk)	395,8687	313,4985	304,448
MRAT (Mustika Ratu Tbk)	361,2783	370,2579	397,0673
TCID (Mandom Indonesia Tbk)	179,8193	499,1127	525,9542
UNVR (Unilever Indonesia Tbk)	71,49139	65,39705	60,56319
CINT (Chitose Internasional Tbk)	306,3378	348,0812	316,0395
KICI (Kedaung Indag Can Tbk)	790,4096	574,4328	534,5719
LMPI (Langgeng Makmur Industry Tbk)	147,9928	150,6613	150,5628
CPIN (Charoen Pokphand Indonesia Tbk)	225,0264	211,4167	217,277
JPFA (Japfa Comfeed Indonesia Tbk)	177,1465	179,4274	212,9573
MAIN (Malindo Feedmill Tbk)	107,621	133,346	129,0115
SIPD (Siearad Produce Tbk)	142,9897	109,424	139,3149
SULI (SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk)	76,92335	89,15921	88,28632
TIRT (Tirta Mahakam Resources Tbk)	110,4441	108,5127	112,4964

TATO(X_3)

Name	2014 %	2015 %	2016 %
INTP (Indocement Tunggal Prakasa Tbk)	72,34968	61,61773	50,95058
SMBR (Semen Baturaja Persero Tbk)	41,48616	44,70469	34,85582
SMCB (Holcim Indonesia Tbk d.h Semen Cibinong Tbk)	55,13951	53,33826	47,85882
SMGR (Semen Indonesia Tbk d.h Semen Gresik Tbk)	78,60681	70,6312	59,09143
WTON (Wijaya Karya Beton Tbk)	59,88428	59,52791	74,6781
AMFG (Asahimas Flat Glass Tbk)	93,05331	85,84927	67,64894
ARNA (Arwana Citra Mulia Tbk)	127,7649	90,29529	97,97579
KIAS (Keramika Indonesia Assosiasi Tbk)	97,04475	43,03946	41,44963
MLIA (Mulia Industrindo Tbk)	77,96372	80,18733	75,01364
TOTO (Surya Toto Indonesia Tbk)	99,57539	93,40581	80,14969
ALKA (Alaska Industrindo Tbk)	501,5813	517,9813	842,938
ALMI (Alumindo Light Metal Industry Tbk)	-1,215	-1,53986	-15,3197
BAJA (Saranacentral Bajatama Tbk)	128,1829	131,8875	99,61471
BTON (Beton Jaya Manunggal Tbk)	55,14912	36,95963	35,39963
CTBN (Citra Turbindo Tbk)	79,72546	49,2701	61,36881
GDST (Gunawan Dianjaya Steel Tbk)	89,51928	77,18268	60,21601
INAI (Indal Aluminium Industry Tbk)	104,4534	104,0906	95,92825
ISSP (Steel Pipe Industry of Indonesia Tbk)	61,87351	65,77179	53,94409
JKSW (Jakarta Kyoei Steel Work LTD Tbk)	32,59952	47,33703	93,79299
JPRS (Jaya Pari Steel Tbk)	84,31891	39,45494	34,35378
KRAS (Krakatau Steel Tbk)	71,75892	35,70371	34,1583
LION (Lion Metal Works Tbk)	62,39984	60,88421	55,28293
LMSH (Lionmesh Prima Tbk)	176,6042	130,5093	96,94586
NIKL (Pelat Timah Nusantara Tbk)	112,6488	143,2596	109,9959

TBMS (Tembaga Mulia Semanan Tbk)	347,3395	395,1656	359,274
BRPT (Barito Pasific Tbk)	106,5146	62,40952	76,29794
BUDI (Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk)	92,22056	72,83647	84,16492
DPNS (Duta Pertiwi Nusantara)	49,37874	43,16296	39,15186
EKAD (Ekadharma International Tbk)	127,894	136,3996	80,94399
INCI (Intan Wijaya International Tbk)	74,46313	80,60821	65,36712
SRSN (Indo Acitama Tbk)	101,6959	92,59676	69,79568
TPIA (Chandra Asri Petrochemical)	127,8938	73,96818	90,65721
UNIC (Unggul Indah Cahaya Tbk)	169,5505	128,3091	121,6813
AKPI (Argha Karya Prima Industry Tbk)	87,35272	69,97475	78,26034
APLI (Asiaplast Industries Tbk)	107,6719	84,46212	101,6723
BRNA (Berlina Tbk)	94,35981	70,20893	65,34452
FPNI (Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk)	242,6675	196,1699	215,8307
IGAR (Champion Pasific Indonesia Tbk d.h Kageo Igar Jaya Tbk)	210,4452	176,4179	180,3996
IMPC (Impack Pratama Industri Tbk)	81,20118	68,51811	49,88049
IPOL (Indopoly Swakarsa Industry Tbk)	80,47791	71,42318	69,15206
SIAP (Sekawan Intipratama Tbk)	62,66502	87,5938	10,85921
TALF (Tunas Alfin Tbk)	128,5973	109,7126	64,58392
TRST (Trias Sentosa Tbk)	76,89865	73,19292	68,35898
YPAS (Yana Prima Hasta Persada Tbk)	131,3617	99,35993	99,31277
ALDO (Alkindo Naratama Tbk)	142,4627	147,0897	162,4142
DAJK (Dwi Aneka Jaya Kemasindo Tbk)	47,01937	50,33973	14,08886
FASW (Fajar Surya Wisesa Tbk)	97,77701	70,92161	68,44451
INKP (Indah Kiat Pulp & paper Tbk)	40,41845	40,2691	39,54905
INRU (Toba Pulp Lestari Tbk)	33,07087	28,87092	24,77902
KBRI (Kertas Basuki Rachmat Indonesia Tbk)	2,672964	16,5672	12,76917
KDSI (Kedaung Setia Industrial Tbk)	169,3405	145,6083	174,6813
SPMA (Suparma Tbk)	74,13202	74,1955	89,51216
TKIM (Pabrik Kertas Tjiwi Kimia Tbk)	44,07392	39,58791	40,01525
KRAH (Grand Kartech Tbk)	59,55202	53,08067	52,20332
ASII (Astra International Tbk)	85,45675	75,04879	69,1543
AUTO (Astra Auto Part Tbk)	85,18067	81,76091	87,64459
BOLT (Garuda Metalindo Tbk)	105,5126	93,47203	94,75569
BRAM (Indo Kordsa Tbk d.h Branta Mulia Tbk)	67,37097	71,22749	74,41011
GDYR (Goodyear Indonesia Tbk)	127,6587	129,6081	136,9231
GJTL (Gajah Tunggal Tbk)	81,07372	74,07541	72,91538
IMAS (Indomobil Sukses International Tbk)	82,89313	72,80484	58,71077
INDS (Indospring Tbk)	81,78932	64,97854	66,08221
LPIN (Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk)	38806,62	24,00526	29,66403
MASA (Multistrada Arah Sarana Tbk)	45,08977	39,60736	37,68796
NIPS (Nippres Tbk)	84,17489	63,82692	58,47361

PRAS (Prima alloy steel Universal Tbk)	34,63278	30,66084	22,97005
SMSM (Selamat Sempurna Tbk)	149,7957	126,2517	127,7254
ADMG (Polychem Indonesia Tbk)	96,35581	74,01569	75,64782
ARGO (Argo Pantes Tbk)	71,87747	34,75118	41,89982
ERTX (Eratex Djaya Tbk)	116,8082	130,5547	133,9849
ESTI (Ever Shine Textile Industry Tbk)	67,79441	65,06374	71,13524
HDTX (Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk)	27,82437	28,72972	34,72285
INDR (Indo Rama Synthetic Tbk)	98,73594	84,74127	81,71329
MYTX (Apac Citra Centertex Tbk)	104,2462	97,26712	80,05849
PBRX (Pan Brothers Tbk)	92,1725	94,52038	92,81961
POLY (Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk)	180,8397	167,7695	155,9514
RICY (Ricky Putra Globalindo Tbk)	101,146	92,72722	94,78817
STAR (Star Petrochem Tbk)	29,46475	35,52262	18,76013
TFCO (Tifico Fiber Indonesia Tbk)	82,69245	58,61374	57,82992
SRIL (Sri Rejeki Isman Tbk)	84,29212	80,59557	71,78648
SSTM (Sunson Textile Manufacturer Tbk)	67,19398	70,12134	65,08412
TRIS (Trisula International Tbk)	142,3014	148,7996	140,9891
UNIT (Nusantara Inti Corpora Tbk)	23,25599	25,67861	24,04871
BATA (Sepatu Bata Tbk)	130,1766	129,3733	124,2388
BIMA (Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma)	274,2455	223,3502	186,9917
JECC (Jembo Cable Company Tbk)	140,3064	122,4365	128,3896
KBLI (KMI Wire and Cable Tbk)	177,7994	171,5452	150,2705
KBLM (Kabelindo Murni Tbk)	142,0685	147,8808	154,5021
SCCO (Supreme Cable Manufacturing and Commerce Tbk)	223,6263	199,2552	152,7647
VOKS (Voksel Electric Tbk)	128,5881	104,0027	121,2287
PTSN (Sat Nusa Persada Tbk)	172,7924	135,62	125,7936
AISA (Tiga Pilar Sejahtera Food Tbk)	69,70526	66,33824	70,7294
ALTO (Tri Banyan Tirta Tbk)	26,87582	25,56972	25,44612
CEKA (Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk)	288,2738	234,599	288,6146
DLTA (Delta Djakarta Tbk)	211,7052	151,5078	138,4725
ICBP (Indofood CBP Sukses Makmur Tbk)	119,9484	119,5043	119,2517
INDF (Indofood Sukses Makmur Tbk)	73,88067	69,7603	81,22995
MLBI (Multi Bintang Indonesia Tbk)	133,9504	128,344	143,4398
MYOR (Mayora Indah Tbk)	137,5907	130,6453	142,0009
PSDN (Prashida Aneka Niaga Tbk)	156,6375	142,6351	142,6905
ROTI (Nippon Indosari Corporindo Tbk)	87,7441	80,34892	86,37778
SKBM (Sekar Bumi Tbk)	226,7716	178,1914	149,8632
SKLT (Sekar Laut Tbk)	202,2423	197,5835	146,7428
STTP (Siantar Top Tbk)	127,659	132,5442	112,5276
ULTJ (Ultrajaya Milk Industry and Trading Company Tbk)	134,2224	124,1225	110,5394

GGRM (Gudang Garam Tbk)	111,9373	110,8025	121,1631
HMSP (Hanjaya Mandala Sampoerna Tbk)	284,3141	234,3268	224,5837
RMBA (Bentoel International Investama Tbk)	133,8956	132,7381	142,7441
WIIM (Wismilak Inti Makmur Tbk)	124,5018	136,9941	124,5385
DVLA (Darya Varia Laboratoria Tbk)	88,92897	94,90074	94,77531
INAF (Indofarma Tbk)	110,6615	105,7501	121,2119
KAEF (Kimia Farma Tbk)	150,0616	141,5005	125,9929
KLBF (Kalbe Farma Tbk)	139,6267	130,5996	127,2443
MERK (Merck Tbk)	165,8353	153,269	139,0991
PYFA (Pyridam Farma Tbk)	128,8282	136,1942	129,8624
SIDO (Industri Jamu dan Farmasi Sido Muncul Tbk)	77,93242	79,34363	85,74756
TSPC (Tempo Scan Pasific Tbk)	133,9164	130,1803	138,7566
ADES (Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk)	115,0687	102,5261	115,6596
KINO (Kino Indonesia Tbk)	179,2111	112,2262	106,3488
MBTO (Martina Berto Tbk)	107,7684	107,0711	96,54698
MRAT (Mustika Ratu Tbk)	86,92541	86,11962	71,29081
TCID (Mandom Indonesia Tbk)	123,852	111,1807	115,6366
UNVR (Unilever Indonesia Tbk)	241,6661	231,94	239,1882
CINT (Chitose Internasional Tbk)	196,9459	82,34672	81,99261
KICI (Kedaung Indag Can Tbk)	102,6405	68,54466	71,08412
LMPI (Langgeng Makmur Industry Tbk)	63,48771	57,07956	50,8345
CPIN (Charoen Pokphand Indonesia Tbk)	138,0625	120,0828	158,0536
JPFA (Japfa Comfeed Indonesia Tbk)	155,2062	145,8257	140,5797
MAIN (Malindo Feedmill Tbk)	127,531	120,5182	133,8433
SIPD (Siearad Produce Tbk)	89,49748	94,05271	94,54614
SULI (SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk)	61,39195	75,61492	80,50184
TIRT (Tirta Mahakam Resources Tbk)	113,6891	111,7421	103,3739

ROA(X_4)

Name	2014 %	2015 %	2016 %
INTP (Indocement Tunggal Prakasa Tbk)	19,15242	14,74348	12,60494
SMBR (Semen Baturaja Persero Tbk)	11,21633	10,65706	6,273603
SMCB (Holcim Indonesia Tbk d.h Semen Cibinong Tbk)	3,232439	2,44755	1,388039
SMGR (Semen Indonesia Tbk d.h Semen Gresik Tbk)	16,19467	11,86126	10,25402
WTON (Wijaya Karya Beton Tbk)	8,380005	3,55845	5,963726
AMFG (Asahimas Flat Glass Tbk)	11,76222	7,993537	4,731139
ARNA (Arwana Citra Mulia Tbk)	20,58014	4,877063	5,863081
KIAS (Keramika Indonesia Assosiasi Tbk)	8,129955	-10,4456	-8,10027
MLIA (Mulia Industrindo Tbk)	6,802958	2,496674	1,776171
TOTO (Surya Toto Indonesia Tbk)	14,34556	11,69072	6,531236

ALKA (Alaska Industrindo Tbk)	2,85246	4,444506	3,33631
ALMI (Alumindo Light Metal Industry Tbk)	2,370604	0,002513	-1,18308
BAJA (Saranacentral Bajatama Tbk)	-0,17093	-0,98547	3,500111
BTON (Beton Jaya Manunggal Tbk)	4,307017	3,428974	-5,62976
CTBN (Citra Turbindo Tbk)	9,820316	3,529086	-0,44279
GDST (Gunawan Dianjaya Steel Tbk)	-0,29479	-4,66344	2,520974
INAI (Indal Aluminium Industry Tbk)	2,508213	2,15116	2,655127
ISSP (Steel Pipe Industry of Indonesia Tbk)	3,947984	2,918244	1,703546
JKSW (Jakarta Kyoei Steel Work LTD Tbk)	-3,6305	-7,65536	-4,41815
JPRS (Jaya Pari Steel Tbk)	-1,79587	-6,05316	-5,48449
KRAS (Krakatau Steel Tbk)	-5,91899	-8,81788	-4,59073
LION (Lion Metal Works Tbk)	8,049375	7,197848	6,174433
LMSH (Lionmesh Prima Tbk)	5,392317	1,45311	3,839634
NIKL (Pelat Timah Nusantara Tbk)	-5,61875	-5,28534	2,105273
TBMS (Tembaga Mulia Semanan Tbk)	2,452064	1,663031	5,567809
BRPT (Barito Pasific Tbk)	-0,04971	0,225558	10,88451
BUDI (Budi Starch and Sweetener Tbk d.h Budi Acid Jaya Tbk)	1,150632	0,645202	1,317413
DPNS (Duta Pertiwi Nusantara)	5,402933	3,591844	3,379946
EKAD (Ekadharma International Tbk)	9,954436	12,0711	12,90875
INCI (Intan Wijaya International Tbk)	7,482657	10,00318	3,708173
SRSN (Indo Acitama Tbk)	3,140129	2,700702	1,54166
TPIA (Chandra Asri Petrochemical)	1,365004	1,409804	14,09521
UNIC (Unggul Indah Cahaya Tbk)	0,001099	-0,3893	9,308503
AKPI (Argha Karya Prima Industry Tbk)	4,652364	3,115007	4,839234
APLI (Asiaplast Industries Tbk)	3,548166	0,600739	7,984571
BRNA (Berlina Tbk)	4,270489	-0,39318	0,606311
FPNI (Lotte Chemical Titan Tbk d.h Titan Kimia Nusantara Tbk d.h Fatra Polindo Nusa Industri Tbk)	-2,5179	1,278251	1,059571
IGAR (Champion Pasific Indonesia Tbk d.h Kageo Igar Jaya Tbk)	15,73071	13,39182	15,7705
IMPC (Impack Pratama Industri Tbk)	16,6635	7,745729	5,528174
IPOL (Indopoly Swakarsa Industry Tbk)	1,458278	0,949155	2,296633
SIAP (Sekawan Intipratama Tbk)	-2,91882	-7,82784	-11,247
TALF (Tunas Alfin Tbk)	13,33925	7,765137	3,418161
TRST (Trias Sentosa Tbk)	0,776197	0,753985	1,026987
YPAS (Yana Prima Hasta Persada Tbk)	-2,77516	-3,53882	-3,90071
ALDO (Alkindo Naratama Tbk)	6,077756	6,578782	6,148466
DAJK (Dwi Aneka Jaya Kemasindo Tbk)	4,762541	-21,9948	-24,0086
FASW (Fajar Surya Wisesa Tbk)	1,639509	-4,41682	9,064334
INKP (Indah Kiat Pulp & paper Tbk)	2,951237	4,647363	4,172239
INRU (Toba Pulp Lestari Tbk)	0,484555	-0,83857	11,04891
KBRI (Kertas Basuki Rachmat Indonesia Tbk)	-1,27608	-10,6974	-8,13161
KDSI (Kedaung Setia Industrial Tbk)	4,757412	0,974519	4,125721
SPMA (Suparma Tbk)	2,34044	-1,94911	3,754912

TKIM (Pabrik Kertas Tjiwi Kimia Tbk)	0,757425	0,0541	0,307191
KRAH (Grand Kartech Tbk)	6,523599	-1,42895	0,137963
ASII (Astra International Tbk)	9,37647	6,361358	6,989364
AUTO (Astra Auto Part Tbk)	6,631322	2,250495	3,308321
BOLT (Garuda Metalindo Tbk)	12,64214	10,63338	11,56361
BRAM (Indo Kordsa Tbk d.h Branta Mulia Tbk)	5,327899	4,308452	7,532094
GDYR (Goodyear Indonesia Tbk)	2,207926	-0,093	1,46762
GJTL (Gajah Tunggal Tbk)	1,755461	-1,78946	3,350992
IMAS (Indomobil Sukses International Tbk)	-0,27639	-0,09046	-1,2206
INDS (Indospring Tbk)	5,599549	0,075687	2,000426
LPIN (Multi Prima Sejahtera Tbk d.h Lippo Enterprises Tbk)	-5208,51	-5,60802	-13,4014
MASA (Multistrada Arah Sarana Tbk)	0,087928	-4,48824	-1,09917
NIPS (Nippres Tbk)	4,121542	1,981689	3,694298
PRAS (Prima alloy steel Universal Tbk)	0,881237	0,42024	-0,1685
SMSM (Selamat Sempurna Tbk)	24,01672	20,77858	22,27272
ADMG (Polychem Indonesia Tbk)	-5,20701	-5,75252	-5,40103
ARGO (Argo Pantes Tbk)	-20,6379	-8,37814	-22,1399
ERTX (Eratex Djaya Tbk)	4,783167	10,04215	2,961193
ESTI (Ever Shine Textile Industry Tbk)	-9,17432	-18,4477	6,326665
HDTX (Panasia Indo Resources Tbk d.h Panasia Indosyntec Tbk)	-2,45148	-7,29053	-8,29684
INDR (Indo Rama Synthetic Tbk)	-0,02547	1,255893	0,172076
MYTX (Apac Citra Centertex Tbk)	-7,69158	-13,5713	-22,0089
PBRX (Pan Brothers Tbk)	2,539383	1,946856	2,557454
POLY (Asia Pasific Fibers Tbk d.h Polysindo Eka Persada Tbk)	-28,979	-7,65005	-5,13435
RICY (Ricky Putra Globalindo Tbk)	1,29043	1,123776	1,088941
STAR (Star Petrochem Tbk)	62,08087	42,09555	67,01879
TFCO (Tifico Fiber Indonesia Tbk)	-1,34435	-0,5187	1,932153
SRIL (Sri Rejeki Isman Tbk)	7,219267	7,105919	6,267724
SSTM (Sunson Textile Manufacturer Tbk)	-1,5667	-1,94469	-2,26659
TRIS (Trisula International Tbk)	7,340775	7,647468	3,941373
UNIT (Nusantara Inti Corpora Tbk)	0,080132	0,083815	0,198885
BATA (Sepatu Bata Tbk)	9,194325	16,28643	5,247769
BIMA (Primarindo Asia Infrastructure Tbk d.h Bintang Kharisma)	9,537293	-2,65072	19,123
JECC (Jembo Cable Company Tbk)	2,236632	0,184026	8,341734
KBLI (KMI Wire and Cable Tbk)	6,031631	7,523714	17,20804
KBLM (Kabelindo Murni Tbk)	3,166942	1,949922	3,324253
SCCO (Supreme Cable Manufacturing and Commerce Tbk)	8,310231	8,973834	13,95976
VOKS (Voksel Electric Tbk)	-5,55669	0,018031	9,593876
PTSN (Sat Nusa Persada Tbk)	-4,29439	0,170998	1,824079
AISA (Tiga Pilar Sejahtera Food Tbk)	5,124895	4,12483	7,771624
ALTO (Tri Banyan Tirta Tbk)	-0,7956	-2,06274	-2,2745

CEKA (Wilmar Cahaya Indonesia Tbk d.h Cahaya Kalbar Tbk)	3,192851	7,171028	17,51075
DLTA (Delta Djakarta Tbk)	28,92386	18,49573	21,24811
ICBP (Indofood CBP Sukses Makmur Tbk)	10,28456	11,00557	12,56421
INDF (Indofood Sukses Makmur Tbk)	6,075344	4,039464	6,409415
MLBI (Multi Bintang Indonesia Tbk)	35,62819	23,65273	43,16978
MYOR (Mayora Indah Tbk)	3,977657	11,02234	10,74625
PSDN (Prashida Aneka Niaga Tbk)	-4,44428	-6,86977	-5,60755
ROTI (Nippon Indosari Corporindo Tbk)	8,803422	9,996549	9,582582
SKBM (Sekar Bumi Tbk)	13,79744	5,251908	2,25077
SKLT (Sekar Laut Tbk)	5,002493	5,320994	3,63333
STTP (Siantar Top Tbk)	7,271774	9,674312	7,454853
ULTJ (Ultrajaya Milk Industry and Trading Company Tbk)	9,700072	14,77686	16,74432
GGRM (Gudang Garam Tbk)	9,328985	10,16108	10,5997
HMSP (Hanjaya Mandala Sampoerna Tbk)	35,87335	27,26417	30,02293
RMBA (Bentoel International Investama Tbk)	-20,8042	-12,9352	-15,4838
WIIM (Wismilak Inti Makmur Tbk)	8,442803	9,762493	7,852196
DVLA (Darya Varia Laboratoria Tbk)	6,573835	7,83955	9,931205
INAF (Indofarma Tbk)	0,093324	0,428113	-1,25699
KAEF (Kimia Farma Tbk)	8,558079	7,730986	5,888223
KLBF (Kalbe Farma Tbk)	17,06433	15,02359	15,43993
MERK (Merck Tbk)	25,61641	22,21549	20,67963
PYFA (Pyridam Farma Tbk)	1,542099	1,929966	3,080275
SIDO (Industri Jamu dan Farmasi Sido Muncul Tbk)	14,80392	15,64584	16,08391
TSPC (Tempo Scan Pasific Tbk)	10,44273	8,420713	8,282873
ADES (Akasha Wira International Tbk d.h Ades Waters Indonesia Tbk)	6,177459	5,027219	7,290232
KINO (Kino Indonesia Tbk)	5,589839	8,189404	5,514075
MBTO (Martina Berto Tbk)	0,67576	-2,16628	1,24148
MRAT (Mustika Ratu Tbk)	1,410411	0,210224	-1,14877
TCID (Mandom Indonesia Tbk)	9,434457	26,15028	7,416545
UNVR (Unilever Indonesia Tbk)	41,50169	37,20169	38,16307
CINT (Chitose Internasional Tbk)	9,175117	9,554423	5,948875
KICI (Kedaung Indag Can Tbk)	5,009868	-9,71374	259,5942
LMPI (Langgeng Makmur Industry Tbk)	0,215974	0,50032	0,85554
CPIN (Charoen Pokphand Indonesia Tbk)	8,280243	7,354912	9,193979
JPFA (Japfa Comfeed Indonesia Tbk)	2,486624	3,056529	11,28253
MAIN (Malindo Feedmill Tbk)	-2,4033	-1,56729	7,404272
SIPD (Siearad Produce Tbk)	0,127697	-16,1134	0,508256
SULI (SLJ Global Tbk d.h Sumalindo Lestari Jaya Tbk)	0,281729	0,364118	0,418777
TIRT (Tirta Mahakam Resources Tbk)	2,916017	-0,11334	3,552464

Appendix 3. Descriptive Statistics
Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DAR	396	4.09	505.61	55.3729	51.65720
CR	396	10.65	46583.99	344.8107	2339.39221
TATO	396	-15.32	38806.62	203.1749	1946.18089
ROA	396	-5208.51	259.59	-7.9156	262.51267
Finansial Distress	396	.00	1.00	.2828	.45094
Valid N (listwise)	396				

Appendix 4. Logistic Regression

Logistic Regression

Dependent Variable Encoding

Original Value	Internal Value
Non Finansial Distress	0
Finansial Distress	1

Block 0: Beginning Block

Iteration History[a,b,c]

Iteration		-2 Log likelihood	Coefficients
			Constant
Step 0	1	439,538	-1,030
	2	438,656	-1,137
	3	438,656	-1,139
	4	438,656	-1,139

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 438,656

c. Estimation terminated at iteration number 4 because parameter estimates changed by less than ,001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-1,139	,117	94,423	1	,000	,320

			Score	df	Sig.
Step 0	Variables	DAR	37,713	1	,000
		CR	2,127	1	,145
		TATO	2,702	1	,100
		ROA	4,987	1	,026
	Overall Statistics		91,348	4	,000

Block 1: Method = Enter

Iteration History[a,b,c,d]

Iteration		-2 Log likelihood	Coefficients				
			Constant	DAR	CR	TATO	ROA
Step 1	1	348,955	-,961	,009	,000	-,004	-,030
	2	281,581	-,353	,012	,000	-,012	-,093
	3	258,568	,082	,014	,000	-,020	-,150
	4	253,618	,295	,016	,000	-,024	-,185
	5	186,155	-,994	-,005	,000	,010	-,444
	6	125,996	-,096	,000	,000	-,005	-,606
	7	100,454	-,578	-,002	,000	,003	-,939
	8	88,291	-,533	-,005	,000	,004	-1,362
	9	84,065	-,573	-,006	,000	,006	-1,776
	10	83,405	-,673	-,006	,000	,007	-2,011
	11	83,381	-,714	-,005	,000	,008	-2,064

	12	83,381	-,716	-,005	,000	,008	-2,066
	13	83,381	-,716	-,005	,000	,008	-2,066

a. Method: Enter

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 438,656

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	355,275	4	,000
	Block	355,275	4	,000
	Model	355,275	4	,000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	83,381[a]	,592	,884

a. Estimation terminated at iteration number 13 because parameter estimates changed by less than ,001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	14,803	8	,063

Contingency Table for Hosmer and Lemeshow Test

		FinancialD = NO		FinancialD = YEs		Total
		Observed	Expected	Observed	Expected	
Step 1	1	40	40,000	0	,000	40
	2	40	40,000	0	,000	40
	3	40	40,000	0	,000	40
	4	40	40,000	0	,000	40
	5	40	39,990	0	,010	40
	6	38	39,738	2	,262	40
	7	39	36,415	1	3,585	40
	8	23	22,754	17	17,246	40
	9	0	1,103	40	38,897	40
	10	0	,000	36	36,000	36

Classification Table[a]

Observed		Predicted		
		FinancialD		Percentage Correct
		NO	YEs	
Step 1	FinancialD NO	298	2	99,3
	FinancialD YEs	9	87	90,6
	Overall Percentage			97,2

a. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)
								Lower
Step 1[a]	DAR	-,005	,012	,203	1	,652	,995	,972
	CR	,000	,000	,014	1	,906	1,000	,999
	TATO	,008	,003	5,704	1	,017	1,008	1,001
	ROA	-2,066	,382	29,207	1	,000	,127	,060
	Constant	-,716	,797	,808	1	,369	,489	